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HENRY V. POOR, Editor.

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American Railroad Journal.

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Saturday, November 30, 1850.

Correspondence of the Journal.

WASHINGTON, November 27, 1850.

More than ordinary interest is felt as to the contents of the forthcoming Message of the President, and the Annual Reports from the Secretaries. I learn that the Report of the Secretary of the Treasury will show that a system of frauds upon the revenue has been extensively practiced by an undervaluation of the goods imported, and that a more stringent law will be recommended to protect the honest importer and the government.

The imports during the year ending June 30th, 1850, have reached $186,000,000 as the declared value, but the actual value has been equal to the sum of $200,000,000.

The exports have reached but $145,000,000, showing an excess of imports over exports of $41,000,000 according to the Custom House returns, but in fact an excess in value of over $50,000,000.

The amount of gold received from California and deposited at the U. S. Mint, to August 31st, 1850, was $24,508,454. Since August 31st, the average has been equal to $2,000,000 per month. This will make the sum of $32,500,000 as the probable receipts of gold from California.

One of the most interesting items of statistics is the annual revenue derived to the Postoffice Department from the ocean steam ships. The following tables, compiled from official sources, will show the extent to which our foreign mail service has been carried on through the agency of ocean steam navigation. These tables will be fruitful in the way of suggestions hereafter.

Statement of Postages by the Cunard Line, from February 21st, 1849, to September 30th, 1850, (under the Postal Treaty).

From Feb. 21, 1849, to Sept. 30, 1850—
Mails received.....$488,611 94
" sent 438,453 55
927,065 49

Or as follows:
From Feb. 21, 1849, to June 30, 1849—
Mails received..... $88,491 82
" sent 79,088 06
167,579 88

From July 1, 1849, to June 30, 1850—
Mails received.....$317,014 70
" sent 290,014 93
607,029 63

From July 1, 1850, to Sept. 30, 1850—
Mails received..... $83,105 42
" sent 69,350 56
152,455 98
$927,065 49

Postages by the Collins' Line of Steamers [under the Postal Treaty with Great Britain] from April 27th, 1850, to Sept. 30th, 1850.

From April 27, 1850, to Sept. 30, 1850—
Mails received..... $7,678 62
" sent 25,789 54
33,468 16

Or as follows:
From April 27, to June 30, 1850—
Mails received..... $500 67
" sent 9,890 74
10,391 41

From July 1, to Sept. 30, 1850—
Mails received..... $7,177 95
" sent 15,898 82
23,076 75
$33,468 16

Statement of Postages on the New York and Chagres Line, from December 1, 1848, to November 1, 1850.

From Dec. 1, 1848, to Sept. 30, 1850—
Mails received.....$178,699 67
" sent 223,898 96
402,590 63

Or as follows:
From Dec. 1, 1848, to June 30, 1849—
Mails received..... $6,727 89
" sent 16,907 14
23,635 03

From July 1, 1849, to June 30, 1850—
Mails received.....$109,263 26
" sent 140,005 64
249,268 90

From July 1, to Sept. 30, 1850—
Mails received..... $54,630 57
" sent 75,056 13
129,686 70
$402,590 63

Charleston and Havana Line, from October 18th, 1848, to September 30th, 1850—one steamer only making trips twice a month.

From Oct. 18, 1848, to Sept. 30, 1850—
Mails received..... $13,598 79
" sent 8,807 58
22,406 37

Or as follows:
From Oct. 18, 1848, to June 30, 1849—
Mails received..... $4,744 99
" sent 3,529 48
8,274 47

From July 1, 1849, to June 30, 1850—
Mails received..... $8,049 22
" sent 4,802 08
12,850 30

From July 1, to Sept. 30, 1850—
Mails received..... $804 58
" sent 476 02
1,280 60
$22,406 37

During August and September, [the hurricane months] a schooner is employed instead of the steamer.

Postages on the New York and Bremen Line from June 1st, 1847, to September 30th, 1850.

From June 1, 1847, to Sept. 30, 1850—
Mails received..... $82,160 00
" sent 58,707 12
140,867 12

Cunard steamers—arrive and depart once a week; gross amount of postage per month.....$50,000
Collins' line, " " 11,000
New York and Bremen line, " " 13,000
" Havre " " 5,000
$79,000

Internal Improvements of the State of New York.

A SKETCH OF THE RISE, PROGRESS, AND PRESENT CONDITION OF INTERNAL IMPROVEMENTS IN THE STATE OF NEW YORK.

Continued from page 738.

If those who are engaged in transporting a million and a quarter of tons to tide water on the Erie Canal, were required to elevate this vast amount of tonnage to a perpendicular height of 2,500 feet, and again to let it down the same number of feet, this ascent and descent would be regarded as an insurmountable obstacle to the transmission of commodities, and the trade would inevitably pass into other channels where the obstacles were less formidable. By means of lift locks on canals, planes with stationary engines, and heavy grades with locomotive engines, on railroads, the science of the engineer has rendered it possible to overcome a rise and fall even of 5,000 feet. But to effect this there must be an outlay in the construction of the machinery, and an application of power for raising and letting down the tonnage, corresponding with the elevation to be overcome.

A lift lock, acting by the power of water, is probably the most ecomical mode of raising and lowering the heavy products of the forest, the mines and of agriculture. By the agency of a lock of ten feet lift, eighty tons may be elevated ten feet in ten minutes, in the boats used on the present canal; and this can be continued, on an average, for the whole season of navigation.* The cost of the locks on the old Erie Canal was $1,000 per foot lift, or $10,000 for a lock of ten feet lift. Five hundred and forty-one locks, the required number to overcome the rise and fall from Cleveland to Philadelphia, would amount to $5,410,000. The annual expense for tending, repairing and furnishing oil for the locks on the Erie Canal before they were doubled, was about $50,000, for 80 single locks. At this rate, 541 locks would cost annually $338,000. Add to this the interest at 6 per cent on the cost of the locks, $324,000, and it makes the total annual expense of the structures to overcome a rise and fall of 5,410 feet, equal to $662,000. Take the rise and fall on the Erie Canal as requiring 71 single locks at $10,000 each, and it it gives a capital of $710,000, the interest of which is $42,6000; add this to the cost of tending, repairs, &c., $50,000, and it makes the annual expenditure $92,600. The difference between the ascents and descents on the Pennsylvania and New York lines, when reduced to dollars and cents, is equivalent to an annual expenditure of $569,400, which is about 5 per cent on the cost of the main line of the public works of Pennsylvania from Philadelphia to Pittsburg. This of itself is sufficient to account for the success which has attended the efforts of New York, in the competition with Pennsylvania, for the trade of the western lakes. But in addition to the annual cost of overcoming the rise and fall, the transporters of property are subjected to delay, expense, and inconvenience, proportioned to the obstacles to be overcome. New York is in all respects equal, and in some particulars a more desirable shipping port than Philadelphia.

In a comparison between New Orleans and New York, from Cincinnati, although there is a difference of 500 miles in favor of New York, yet on the untaxed waters of the Ohio and Mississippi, a barrel of flour is carried 1,500 miles in a flat boat for fifty cents, being less than the toll charged by the states of Ohio and New York on 613 miles of canals, besides the sum required to remunerate the person for transporting the barrel of flour 1,010 miles, and the inconvenience and delay occasioned by 1,239 feet of lockage. The charge of transit on the Ohio river, by steamboats, is about half cent per ton per mile.

* The number of lockages at Alexander's Lock, a few miles west of Schenectady, in the 219 days of navigation in 1849, was 36,918, averaging one boat for 8 66 minutes for the whole period, being 168½ boats for each 24 hours. Canal Commissioner's Report, 1850, p. 100. In 1847 the lockages averaged 205 for each 24 hours, being one in each seven minutes, of the whole season. Single locks, in 1847, by being double manned, passed a boat every five minutes for twenty-four hours in succession.

There are causes, however, which operate against the route to New Orleans. These are set forth by Mr. Cabell, in an able defence of the canal policy of the James river and Kanawha Canal Company, and published in 1846, as follows;—"1. The danger of the navigation of the Mississippi on account of snags, and the higher rates of insurance in consequence of these hazards. 2. The storms and hurricanes in the Gulf of Mexico, incident to a West India climate. 3. The climate of New Orleans, and injury to articles liable to damage from heat. Persons connected with five mercantile houses of established character in Richmond, engaged in the trade to which they refer, certify that the articles of tobacco, flour, pork, bacon, lard, butter, cheese, &c., would pay two cents per ton per mile from the Ohio river to Richmond, and net the grower more than if taken to New Orleans free of charge, for the following reasons:—"These articles are all materially injured by passing through a warm and humid climate; at New Orleans they have to pay exorbitant rates of drayage, storage, fire insurance and commission, and when shipped from thence to other markets are subject to a rate of freight at times 50 per cent higher than from James river." Gen. Steenbergen, who resides on the borders of the Ohio, says:—"Every avenue from the Ohio to the eastern cities at all practicable is used and sought now in preference to the New Orleans route. It will always be the case. The climate and dangers of the one, against the certainty and even high prices of the other, will make the island passage the favorite one."

Heavy expenditures have been made by the British government for improving the channels of communication between the great lakes and the ocean, through the St. Lawrence river in canalling by the falls. The interior route, which is completed only to Lake Ontario, might serve an important purpose in case of war, by keeping up intercourse with the upper lakes, independent of the navigation of the St. Lawrence along the borders of the United States. But as a channel for the accommodation of vessels in a peaceful contest for the trade of the lakes, it is entirely superceded by the superior navigation afforded on the direct route down the St. Lawrence.

The interior route leaves the St. Lawrence at the mouth of the Ottawa river, 61½ miles above Montreal, and follows the Ottawa 58½ miles, where the connection is made with the Rideau Canal. The whole distance, by this route, from Montreal to Kingston, is 248 mies, with 63 locks and 564½ feet of lockage. From Kingston by Bay of Qunite to the mouth of the river Trent is 70 miles. From this point, by way of Rice Lake and Octonabex river, to the summit of Balsam Lake, 166½ miles, the rise is 584 feet, requiring 61 locks. In descending by Talbot river to Lake Simcoe, 16½ miles, 12 locks are required for 108.4 feet of lockage. From Lake Simcoe by the river Severn to Gloster Bay, Lake Huron, 52 miles, the descent is 110 feet, requiring 10 locks. From Montreal to Gloster Bay, Lake Huron, the total distance by this route is 553½ miles, with 1,367 feet rise and fall, requiring 146 locks.

The direct route by the improvement of the St Lawrence is as follows:—From Montreal to Kingston, 176 miles, 204.3 feet of lockage and 23 locks. From Kingston to Port Dalhousie by Lake Ontario 163 miles. Ascending to Lake Erie by the Welland Canal, 329 feet of lockage and 26 locks, in a distance of 28 miles. From Port Colbourne, Lake Erie to river Detroit 218 miles. Ascending river Detroit, Lake St. Clair, and river St. Clair to Lake Huron, 85 miles. Total, 670 miles, 533.3 feet of lockage, and 49 locks. This route saves 97 locks and 833 feet, nine inches of rise and fall, compared with the inland route. The English engineers give the elevations of the lakes above the level of the sea at the termination of tide water at Three Rivers, 90 miles below Montreal, as follows:—Lake Huron, 594 feet; Lake Erie, 564 feet; Lake Ontario, 234 feet.

The distance from Toledo to New York is 760 miles, and to Montreal 585 miles. To the ocean from Montreal is 800 miles, and from New York only 20. The totals are 780 by New York, against 1,385 to the ocean by way of Montreal and Quebec. The New York route has 640 feet of lockage, and 71 locks, while that by Montreal has 533.3 feet of lockage and 49 locks. The difference in the lockage is not so material as the fact that by the recent improvements of the Welland Canal, and on the direct route down the St. Lawrence, a vessel of 500 tons burden can take in a cargo at Toledo, and so far as physical obstacles are concerned, can pass down the St. Lawrence and into the Atlantic without breaking bulk. When the navigation of the St. Lawrence is made free, and a vessel can clear from Toledo or Chicago to a port in Europe, this route will have all the advantages of the Mississippi route from Cincinnati in saving the cost and trouble of transhipment. By the present regulations a cargo must go to sea from Montreal in a British vessel.

The outlet of the St. Lawrence river into the ocean is not less than 1,000 miles to the northeast of Lake Ontario, about 700 miles of the line consisting of the river itself, and 300 miles of the Gulf of the St. Lawrence, into which it falls. This line of navigation has been acurately described by Mr. Stevenson, who visited and carefully examined it in 1838, and made a report to the British government in reference to the enlarged canals around the rapids of the St. Lawrence. He describes the navigation of the Gulf as follows:—

"The navigition of the Gulf of St. Lawrence, through which the river discharges itself into the Atlantic, is very hazardous. In addition to the dangers arising from the masses of ice which are constantly to be met with floating on its surface, for nearly one-half of the year, it is subject to dense and impenetrable fogs, and its rocky shores and desolate islands afford neither comfort nor shelter to the shipwrecked mariner. One of the most desolate and dangerous of the islands in the Gulf is Anticosti, which lies exactly opposite the mouth of the St. Lawrence, and is surrounded by reefs of rocks and shoal water. Two light houses have been erected on it, and also four houses of shelter, containing large stores of provisions, for the use of those who have the misfortune to be shipwrecked on its inhospitable shores."

New York, as stated in Mr. Clinton's memorial, "is placed in a happy medium between the insalbrious heat of the Mississippi, and the severe cold of the St. Lawrence; and has pre-eminent advantages as to the goodness and extensiveness of her market." Will the commerce of the lakes turn away from their favorite shipping port, and the safe channel to it by the Erie Canal and the Hudson, and expose itself to the hazardous navigation of the Gulf of the St. Lawrence?

This may take place to some extent. At the same time the attractions of the New York market may draw trade even from Lower Canada through Lake Champlain and the Northern Canal. The valleys of the Hudson, of Lake Champlain, and of the St. Lawrence, are nearly on the same level.—Lake Champlain is only 87 feet above the tide of the Hudson, and from Albany to Whitehall, the rise and fall is only 204 feet in a distance of 72 miles. It is stated by the Canal Commissioners in their report of 1817, that three locks at Fort Edward, [from whence the Hudson was originally used as a part of the canal,] of 7.779 feet lift each, would attain the summit level between the river and lake. Gordon, in his Gazetteer of New York, says:—"The most remarkable feature of the Hudson and Champlain valley, is its great and uniform depth. The highest part of its bottom, between the river and the lake is only 147 feet above the tide of the Hudson, and 54 above the surface of the lake. Hence, an obstruction in the channel of the Hudson, at the entrance of the Highlands near Newburgh, of only 150 feet in hight, would turn the current of the river northward, and cause it to descend by Lake Champlain and its outlet to the Gulf of the St. Lawrence."

The formation of the country, for uniting the Hudson with Lake Champlain, was as favorable as that for connecting it with the great wester lakes; and as soon as the Northern Canal was completed, the lumber and other articles which formerly were transported from the shores of Lake Champlain to Montreal and Quebec, took the route of the canal to the Hudson.

The Northern railroad, which is intended to tap the western trade at Ogdensburgh, on the St. Lawrence, is brought on an easy grade, and enters the

Champlain valley about one hundred miles north of Whitehall, at Rouse's Point, where the company desires to bridge the lake, and connect the road with those leading to Boston, through Ve mont.—Will this trade go over the mountains to Boston, or pass through the Champlain and Hudson valley to New York? The engineer who surveyed the route for the Northern railroad, states, that "the amount of elevation to be overcome from Burlington to Boston, exceeds, by 3,000 feet, that to be surmounted by a train in passing from Burlington to Albany. But adopting this excess at 2,500 feet only, and it would, so far as the transportation of freight is concerned, be equivalent to an additional distance, on a level railway, of 125 miles; which, being added to the 86 miles excess in the measured distance, gives an excess of 211 miles in the equated distance of Boston from Burlington over that of Albany to Burlington. And it cannot be doubted, that with this difference in favor of Albany, and 67 miles in favor of New York, when compared to the distance to Boston, a large portion of the business which passes the bridge at Rouse's Point, must take the route to the Hudson river valley."

During the season of navigation the present accommodations for trade and travel are of the best character, and when the railroad connections are completed, the grades of the respective lines will decide in favor of the route through the Champlain and Hudson valley, at all seasons.—*Merchants' Magazine.*

The French Navy.

The following was the state of the French navy according to the official returns of the first of June last:—24 ships of the line afloat and 21 in the dockyard. These latter represent the force of 16 ships of the line at 22-24 of advancement, and 4 at 14-24; 38 frigates afloat and 18 in the dockyard, representing 10 at 22-24, and 6 at 14-24; 36 corvettes, 30 afloat and 6 in the dockyard; 51 brigs, 44 afloat and 6 in the dockyard; 38 transports, 15 of 800 tons, 12 of 500 tons, and 11 under 500 tons; 50 light vessels, of various tonnage; in all, 277. In mixed vessels there are—1 ship of the line of 100 guns, and 2 of 90 in the dockyard; 1 third-rate frigate afloat, 2 corvettes, used as advice boats, and 1 small vessel, the Pingouin, of 30 horse power. The steam navy is composed of 1 vessel of 960 horse power, and 21 frigates; 8 corvettes of the first-class, 2 afloat and 6 in the dockyard; 21 corvettes of the second class, 20 being afloat and 1 in the dockyard; 34 advice boats of the first class afloat; 23 advice boats of the second class, 19 afloat and 4 in the dockyard; 2 iron boats of 30 horse power and 1 of 20 horse power, appropriated to the local service of Senegal—in all, 111 vessels. It appears, from an official return, that the cost of building and fitting out a French ship of the line, of three decks, and carrying from 110 to 120 guns, is 3,000,000f.; one of 100 guns, 2,800,000f.; and one of 90 guns, 2,500,000f.

Institution of Mechanical Engineers.

"On the India-rubber Buffer," by Mr. De Bergue. In reference to the observation that the sustaining power of the India-rubber buffers is too great, and that in the event of a collision the train might collapse before this was fully developed—the writer would observe, that the most effective buffers, in the event of a collision, will be those which will oppose the greatest amount of resistance moving through the greatest space, provided their maximum resisting force should not exceed the pressure that could be sustained by the under frames of the waggons without injury. Now the maximum sustaining power of a pair of these India-rubber buffers does not exceed 20 tons, and as there are several thousand sets of them in use, many of which have at times been driven quite home without the waggons being collapsed, it follows that their resisting power does not exceed a *useful* limit, and that they must consequently be much more efficient in the event of a collision, than any other buffers having the same stroke and only one-third of the resisting power.

But it must be borne in mind that buffers are not solely required for cases of collision, they are more generally serviceable to break the slighter concussions in stopping and starting trains and in sidings and warehouses; and in order that they should be appropriated to this service, their resisting force must be comparatively very small at the commencement of the stroke; no spring yet produced combines these properties so perfectly as the vulcanised India-rubber; indeed, it is so easily acted upon at the commencement of the stroke, that it has been found advisable to compress the four rings in each buffer to the extent of one inch before the stroke commences.

If the immense sustaining power of these buffers were objectionable, it could be reducued to any required amount, simply by decreasing the diameter and thickness of the rings, which would also lessen the cost—but, in the opinion of the writer, that would be destroying one of the most valuable properties of these buffers.

A comparison has been made between the relative proportions of effective resistance of a pair of buffers of 12 inches stroke with the ordinary laminated spring, and a pair of the India-rubber waggon buffers; but, in the writer's opinion, the calculations are incorrect. It has been assumed that the India-rubber buffers have only 1½ inch stroke with a final resistance of three tons: say 3 tons × 1½ inches = 4½ effective resistance of a pair of India-rubber buffers. Then 12 inches is given as the stroke of the laminated spring with 2¼ tons, which would make 2¼ tons × 12 inches = 33 effective resistance, the proportion being 4½ to 33, or 1 to 7⅓.

But as regards the India-rubber buffers, the length of stroke is exactly 3 inches, and the maximum resistance 20 tons for a pair; and as this large am't. of resistance is mainly accumulated towards the end of the stroke, as will be seen from a statement of experiments annexed, it would not be correct to take the half of that as the average resisting power; but it is presumed that it will be keeping within the limits to take only one-quarter of the maximum resistance; say 5 tons, as the average resisting power for a pair of buffers, thus: 5 tons × 3 inches = 15 effective resistance.

With regard to the laminated spring, 2¼ tons is given as the resisting power of the spring for the pair of buffers with 12 inches of action; but this 2¼ tons is the *maximum* resistance of the spring deflected to a straight line, and being a steel spring, and its resistance not increasing in the same compound ratio as the India-rubber, nearly half its maximum power should be allowed as the average resistance throughout the stroke; say 1⅛ ton × 12 inches = 16½ effective resistance; thus it appears that the proportionate effective resisting force between a pair of the India-rubber 3 inches stroke waggon buffers, and a pair of 12 inches stroke ordinary laminated spring buffers, is as 15 to 16½, instead of being as 1 to 7⅓.

It may be here observed that the India-rubber buffers are not limited to 3 inches stroke; some are made 4½ inches, and some with 6 inches stroke for passenger carriages, and their resisting power is proportionately increased, but this incurs additional expense, which is a matter of no small consideration in the present times, and it is found from lengthened practice that the 3 inch stroke buffers are quite sufficient for all classes of goods waggons, and even for cattle trucks, luggage vans, &c. The size of the India-rubber rings in these 3 inches stroke buffers is 5½ inches diameter and 1½ inch thick.

With respect to the durability of the vulcanised India-rubber, a reference has been made to elastic bands for papers that have become completely rotten; but it will be sufficient to state the fact that a great quantity of these bands have been made that were never "vulcanised" at all, and were manufactured under an independent patent for "converting," but they were sold by the same parties, and the public did not know any difference. The India-rubber rings used in the buffers are all vulcanised, and the writer has examined many of them that have been at work for several years, and he has not yet met with a single instance of a bad one.

It has been objected to the external cylinder buffers, that the piston or plunger is guided through too short a space, which makes it more liable to break the cylinder in the event of an oblique blow; but it should be observed that this defect is obviated in the India-rubber buffer, where the length of the bearing extends from the mouth of the cylinder to the end of the boss on the base plate, the spindle being fitted so as to form a solid body with the plunger. The India-rubber buffer is superior, in the writer's opinion, to the other external buffers, in efficiency and durability, whilst equally compact and economical, as the resistance begins very gradually at the first part of the stroke, and increases to a great power at the latter part, without coming to a dead stop at a moderate pressure, as in the other buffers; the pressure being spread uniformly over the whole surface of the base plate, which is better adapted to preserve the waggon frame from injury, and the elastic material is not liable to break as steel, whether in the form of a spiral or otherwise.

The following table shows the actual compression of one of these India-rubber waggon buffers of 3-inch stroke, with each increase of pressure from ¼ ton up to 10 tons, tried with great accuracy in a machine made for the purpose:—

Pressure in tons.	Amount of action in inches.
¼	·125
½	·625
¾	1·063
1	1·344
1¼	1·694
1½	1·750
1¾	1·906
2	2·031
2¼	2.219
3	2·375
4	2·563
5	2·750
6	2·813
7	2·875
8	2·938
9	2·969
10	3·000

—*Practical Mech. Jour.*

LARGE DAMAGES FOR A FORCIBLE EJECTMENT FROM A RAILWAY CAR.

In the case of Thomas Keyes vs. W. B. Lawton and others, for assault and battery, tried before the Supreme Court of Rhode Island, the Jury returned a verdict for the plaintiff for $10,000. The Providence Journal says that the action was brought for an assault committed upon the plaintiff while a passenger in the Stonington cars by the defendants, who were officers in the cars, and for a forcible ejectment from the cars. We understand that the assault for which this suit was brought commenced by a controversy between the plaintiff and brakeman about the smoky condition of the cars, and ended by the former being thrown from the train, and seriously injured.

Vermont Legislature.

The Middlebury Register contains a brief review of the proceedings of the Vermont Legislature at its last session, from which we extract the following:

"In the department of 'roads,' the great questions in agitation this year were; The bridging of Lake Champlain at Rouse's Point, and the application of the Rutland and Whitehall railroad for right to extend their road from Castleton to Rutland. In the former case, after so amending the original bill as to give the Rutland and Burlington road equal privileges with the Vermont and Canada (authorising the Rutland and Burlington to extend their road to Swanton via St. Albans Bay for that purpose)—the grant was made almost unanimously—only three in the Senate, Messrs. Chandler, Currier and Parker voting against it. In the House there were but eleven opposed. The grant asked by the Rutland and Whitehall road was refused by a decisive majority. Several plank road companies were incorporated—among the number one from Bristol to Vergennes, and one from Hinesburgh to Burlington.

STATISTICS OF COAL.

The following tables comprise many particulars of interest in relation to coal. They are derived mainly from the valuable work on this subject by Richard C. Taylor, Esq.* The very general substitution of coal for wood as fuel, and its employment in the manufacture of iron and in the production of steam and gas, have, of late years, given an amazing impulse to the trade in this article. Thirty years ago, the coal trade in this country was limited to 365 tons of anthracite, brought from the Lehigh mines to Philadelphia; now, the annual production of anthracite greatly exceeds 3,000,000 of tons. This rapid increase is not confined to the United States. In the twenty years from 1825 to 1845, the exports of coal from Great Britain increased 713 per cent.; the production of coal in France 181 per cent., in Belgium, 111 per cent., in Prussia 124 per cent.

Indeed, so great and various have the uses of coal become, that in connection with iron it must now be considered one of the most important elements of a nation's commercial and manufacturing prosperity. It is interesting, therefore, to ascertain and compare the extent and quality of the coal deposits of various countries. Unfortunately, there exist innumerable deficiencies and discrepancies in the statistical materials at command. In some countries, however, as in France and Belgium, measures are taken to register every important particular in mining operations. It is much to be regretted, that the same fullness of detail is unattainable in Great Britain and in this country. This work of Mr. Taylor, by exhibiting the importance of these details, will, it is hoped, do much towards securing so desirable a result.

In the distribution of coal the United States are highly favored. Exclusive of Texas, New Mexico, California and Oregon, all of which are known to contain coal, the area of coal formations in the United States is estimated by Mr. Taylor to be 133,132 square miles, while the total area of these formations in Great Britain, Ireland and the British Provinces of Nova Scotia, New Brunswick, Cape Breton and Newfoundland, is, according to the same authority, less than 30,000 square miles.—Nearly the whole of this vast area is occupied by bituminous coal. The total area of the anthracite region of Pennsylvania is estimated at less than 400 square miles. Yet more tons of fuel are now annually produced from this small area, than from the almost boundless fields of bituminous coal scattered over twelve States. The railroads and canals built to develope the wealth of this region, had cost in 1847 about $40,000,000. Anthracite seems, indeed, to have superseded bituminous coal on nearly the whole of our Atlantic seaboard. The freedom from smoke of anthracite is alone sufficient to account for the preference given to it for domestic purposes. In steam navigation it admits of much closer stowage, and is not liable to spontaneous combustion, as is the case with bituminous coal.—In war steamers there is additional advantage, that no smoke betrays the motions of steamers burning anthracite, whereas steamers burning fat, bituminous coal can be "tracked" *seventy miles*, before their hulls become visible, by the black smoke trailing along the horizon.† The preference given to anthracite may be illustrated by a comparison of the importations of coal into Boston, in the years 1840 and 1847, which stand thus:

	1840.	1847.
Pennsylvania anthracite,	73,847	258,093 tons.
American bituminous coal,	3,299	4,554 "
Foreign " "	49,997	65,203 "

Thus, while in 1840 the excess of anthracite was but 20,551 tons, in 1847 it was 188,336 tons.‡

In regard to the red ash and white ash varieties of anthracite mentioned in Table VIII, "it seems established," says Mr. Taylor, "that, for closed furnaces for warming houses, the white ash variety, being the most compact, dense and slow burning, is more durable" than the softer red ash coal, and consequently preferable. "In open grates, he adds, for warming apartments, the latter is decidedly preferred."

"A very important and interesting experiment was recently made for the purpose of testing the comparative value of the red and the white ash coals for domestic purposes. Two rooms of nearly the same size, and having the same temperature, were selected to ascertain how many pounds of each kind would be required to heat them to a temperature of 65 degrees, during a period of 15 hours, when the temperature out of doors at 9 A. M. was at ten degrees below the freezing point. Two days were occupied in the trial, so that the red and the white ash coal might be used in alternate rooms. Fires were made at 9 A. M., and continued until 12 P. M. Two thermometers (one in each room) were suspended at the greatest distance from the grates, and the temperature was carefully registered every hour. The result was as follows:

"Thirty-one pounds each day of the Schuylkill red ash coal gave a mean temperature of 64 deg.; and thirty-seven pounds each day of the white ash, taken from a vein of high repute in the Lehigh region, gave a mean temperature of 63 deg.; making 2,000 pounds of the red ash to be equal to 2,387 pounds of the white; or red ash coal at $5 50 per ton to be equal to white ash at $4 61."*

Table I. gives a comparative view of the areas of coal lands, and the production in 1845 of the six principal producing countries. As to the area of coal formations in France, it is to be remarked, that the area of the "concessions," or grants made for working, is all that is given. The amount of coal produced includes 152,900 tons of lignite or brown coal in France, and over 700,000 tons in Prussia. The fourth column gives the relative parts in 1000 produced by each country.

TABLE I.†

Countries.	Sq. miles of coal formations.	Tons of fuel produced in 1845.	Relative parts of 1,000.	Official estimated value at places of production. American dollars.	Pounds sterling.
Great Britain	11,859	31,500,000	643	45,738,000	9,450,000
Belgium	518	4,960,077	101	7,689,900	1,660,000
United States	133,132	4,400,000	89	6,650,000	1,373,963
France	1,719	4,141,617	84	7,663,000	1,603,106
Prussian States..	not defined.	3,500,000	70	4,122,945	856,370
Austrian States..	"	659,340	14	800,000	165,290
Total.....		49,161,034	1000	73,663,845	15,108,729

Tennessee.

Memphis and Charleston Railroad.—The President of this road, Hon. James C. Jones, has called a meeting at Memphis, on the 1st. proximo. The route of this road will then be determined.

In speaking of the road, the Memphis Eagle says,

The prospect of the construction of the road in a few years, is eminently favorable. One million seven hundred thousand dollars have been subscribed to the stock already. A like amount, we feel certain, never yet was subscribed in the same time to a public project, under similar circumstances. The question of building a railroad, as a practical question, was a new one in the section of country in which it was proposed, and yet from this section every dollar of subscription has thus far come. No appeal has yet been made for aid to Charleston or New Orleans, large and wealthy points deeply interested in the work, or to the capitalists of northern Georgia, to whose system of internal improvements the completion of this road is absolutely essential, or to foreign capitalists in Balmore, Philadelphia and New York, who will doubtless recognise in the projected road a fine opportunity for profitable investment of their surplus means, and a project ensuring greater convenience and more frequent intercommunication in their trade with the west.

It will not be long before they will be called upon and solicited to properly note the value of the projected road as an investment and an aid to trade and travel. We understand that it is the intention of Governor Jones, immediately after the meeting of the board of directors at this place, on the 1st proximo, to proceed first to New Orleans and then to Charleston in the prosecution of his zealous labors, which have thus far so signally advanced the prospects of the road, which, in fact, more than anything else, have placed it at a point from which the view of its completion is certain. We have no doubt but that he will gather in New Orleans and Charleston a harvest of subscriptions, abundant even in the most sanguine expectations of the warmest friends of the road.

North Carolina.

Wilmington and Raleigh Railroad.—We closed our report of the proceedings of the stockholders of this company on Saturday, by stating they had not adjourned at 10 o'clock, P. M. They did not adjourn till after 11 o'clock, having finished their business before they left the hall.

A resolution was offered to divide 2 per cent. of the surplus balance of cash on hand among the stockholders, which is equal to 3 per cent. on the capital stock.

This resolution was amended on motion of Dr. Frederick J. Hill, as follows:

Resolved, That the available means, $45,000, should be applied to the extinguishment of the debt of the company, and the president and directors are instructed to apply it to the payment of such debt as may in their judgment most conduce to the prosperity of the company.

The stockholders separated under the influence of the most kind and friendly feeling, and were much cheered by the fine prospects of the road, its growth in favor with the public, and the faithful and efficient manner in which its concerns had been managed by those having charge of the same. —*Commercial.*

The Great Central Railroad.

Among the many railroad enterprises of the day, perhaps the most remarkable is the almost continuous line extending westwardly through the centres of the States of Pennsylvania, Ohio, Indiana and Illinois to the Mississippi river opposite St. Louis, and from the latter point to the western line of Missouri. It is almost equally remarkable that while the projectors of many of the links of this extended chain have located their roads mainly with a view to local advantages and the development of local wealth, they have so adjusted them as to make in almost every instance, the nearest practicable approach to the air line from New York to St. Louis and the Bay of San Francisco. This central line is nearly equi-distant from the northern lakes and the Ohio river, and passes through the richest portions of the States intersected by it. It affords a ready access to market for the products of those districts of country which have been heretofore farthest removed from the great natural thoroughfares above mentioned, thereby increasing the value of their lands and products and swelling the tribute of trade pouring into our great eastern markets. The fact is worthy of note, that this line of communication, in passing through the States of Ohio, Indiana and Illinois, follows the route of the National road, the chosen and habitual route of land travel between the east and the west. That this will hereafter be the favorite route for travel and transportation appears probable, not only because it presents the shortest line between the Mississippi river and New York and Philadelphia, but

* Statistics of Coal, by Richard C. Taylor, Philadelphia, 1848, 8vo., pp. 754.

† Taylor, p. 364.

‡ Taylor, p. 16.

* Taylor, Introduction, p. lx.

† Ibid, Introduction, p. xx.

also, from the fact that its latitude is the most favorable which can be imagined; being far enough south to avoid the heavy snows which often impede operations on the northern roads, and so far north as to transport exery kind of product without danger of injury from heat.

There is a class of products for the transportation of which railroads do not now and perhaps never will successfully compete with our rivers and lakes. For this reason all lines of road running parallel and near to those natural thoroughfares must yield thr preference to them. But where no such natural channels of trade exist, the railroad monopolises the traffic. The country lying immediately adjacent to the Ohio river and the lakes is, in general, inferior in fertility to the central portions of the States named. The width of country tributary to a road running along those water thoroughfares, is of course less than that upon the central route. From all these obvious considerations, it must be apparent, that the 'Great Central route' of railroad, will not only confer a greater benefit upon the country than any other, but that it will enjoy a controlling advantage in point of both the through and the local business. The north and south lines of road and canal cannot be competitors nor rivals of this work; each will aid the other; especially will they be tributary to this line of road. The great currents of travel and transport set east and west, seeking the shortest and most expeditious route; and all the lateral currents rush into this main stream. The influence of rival interests may for a little time deflect trade from the right line, but this perversion will be only temporary and cannot long be maintained in violation ot the controlling law of trade.

The enterprise and energy displayed in prosecuting the various parts of this great work are proportioned to its magnitude and importance. From Philadelphia westward the road is completed to Johnstown; and active measures are in progiess for its extension not only to Pittsburgh, but by the Hempfield railroad route on the *air-line* to Wheeling. From Wheeling to Zanesville, the subscription of stock to the Central Ohio railroad is rapidly filling up. From Zanesville to Newark the line is under contract and will be completed the next summer; and the entire line from Zanesville to Columbus will be completed within fifteen months.—From Columbus to the Indiana boundary, occupying ground which will ultimately be conceded to the Central Ohio company, from the greater economy of working a consolidated line—several interests are found arranging themselves, perhaps unconsciously, *in line*—the Columbus. Xenia and Dayton—the Columbus, Springfield and Dayton—the Dayton and Western, and the Richmond and Miami railroads may not only become absorbed in the Central Ohio railroad interest, but that interest itself may be ultimately swallowed up in a more comprehensive consolidation, and become a part of the "Great Atlantic and Mississippi line," a name which, by the bye, is already given to that portion of the route which traverses Illinois. The Terre Haute and Richmond railroad, extending across the State of Indiana, is in a good state of forwardness. Measures are in progress for putting the part extending from Richmond to Indianapolis under contract at an early day. From Indianapolis to Terre Haute the line is nearly ready for the rail, and will be in full operation by December, 1851. The survey of the route across Illinois, from Terre Haute to St. Louis, is nearly completed, and a large subscription of stock has been made. In Missouri, correspondent to the grandeur of the conception that looks to a railway across the continent, a company has been organised, large amounts of stock have been taken, and surveys are actually in progress upon the route of the Pacific railroad.

In less than five years from this time, there will be a continuous line of railroad in operation over the route we have indicated from New York to the western part of Missouri; and making, throughout nearly its entire length, *the nearest practicable approach to an Air Line in the direction of San Francisco*

To no States is the construction of this work of greater importance than to Ohio and Indiana.—Railroads are changing, to a great extent, the channels of trade. In time, they will in a large degree become competitors with the navigable waters in the carrying trade. It is, therefore, important, as a matter of public policy, that railroads should pass through those districts whose natural capacity for production promises the largest amount of local business.

As a general rule, the local business of a road contributes more larely to its revenues than the through transportation; but, when the two are united in a large degree, of course no element of success can be wanting. Sooner or later a railway communication *will* be had between New York and San Francisco; and, not only to accommodate itself to the sublime destiny of being the world's commercial artery, but also to meet the requisitions of a great national trade, will all the railway interests we have adverted to be compelled to throw out every needless foot of distance. When such a necessity is contemplated, what a decided preeminence must be conceded to the Great Central Atlantic and Pacific line.—*Terre Haute, Ia., Journal.*

Indiana.

We copy from the Lafayette Journal the following extract from a series of articles in that paper, written by Hon. A. S. White, President of the Lafayette and Indianapolis railroad. In addition to its intrinsic merits, it is well worth perusal, as giving a good idea of the feeling which prevails throughout the west upon the subject of railways:

The productions of the soil and of labor, are the immediate and only sources of national wealth.—Railroads are the best *media* through which the products are made available to the general use and convertible into the standards of value. Of what account is our fertile soil, and to what end shall we labor, if we remain in our pastoral and primitive seclusion? The ascent of the steamboat up our river, and the completion of our canal, have marked successive eras of improvement in our condition, and if all the world stood still around us might continue to sustain us in our present growth. But are we content with this? For ourselves and for our children, our ambition as citizens aims much higher. Planted in the best part of the Mississippi valley, where all the comforts and luxuries of civilised life may be reached in their highest excellence, we desire to see all our resources unfolded, and our society advance in all its various forms. This will not only be realized in an increase of our wealth, but in the heightening of our moral and intellectual condition. In these channels of commerce, arts and manufactures will follow. The intercourse of the world will bring to us its intelligence. We shall be visited by the best classes of emigrants, and with the increase and improvement of our population, Schools, Lyceums, Churches, Agricultural and Mechanical Societies, will be instituted and sustained, general intelligence will increase, social intercourse will be refined and promoted. To none are these results so interesting, as to our country friends and their young families.

Hitherto the great waters have been the sites of cities and the points of enterprise; and ships, the messengers ot commerce, have connected continent with continent and city with city, but those "canvas-backed birds of the ocean" could never display on our prairies the rich exchanges of commerce. Soiled, faded, and out of time, those exchanges came to us in Canestoga waggons or sluggish canal boats. The traveller who would record our manners or note our history, passed around our inaccessible region. On account of her contiguity to the great lakes and to "The Father of Waters," even our younger sister Illinois has stolen our name and the honors of our primogeniture. Throughout the entire east the whole region west of Ohio was known only as Illinois, and Hoosier character was just enough developed to point some tale of romance, whose hero wasthe wondrment of civilisation and the affright of ladies. A gentleman just returned from Rochester told me, that an intelligent friend there inquired of him "if Lafayette was on Fox river?"

It is the glory of the railroad system that it has brought the *country* in contact with the city; or rather that it has brought the city into the country. Selecting its own track, always a golden one, it does not travel over sterile fields of ocean, or along miasmatic and overflowed valleys; but speeding through a thousand harvest fields and past as many workshops in a single day, it leaves its tribute and scatters its favors with the quickness of thought ready to return again on its diurnal round through the circuit of the year, fearing neitner frosts, nor drought, nor tempests, nor embargo, nor blockade.

If this language is figurative, it portrays facts of our daily experience. The railroad has proved itself the dominant system of the 19th century. No city or village now can flourish which is cut off from its influence. Look at the expensive race of rivalry that Boston and New York, and the slow-moving city of Philadelphia, and Baltimore with her unflinching perseverance, are running to secure by this instrumentality the western commerce! See how Buffalo, enthroned on the lakes, and her great Erie Canal, has been startled at the thunders of little Dunkirk! How Dayton, nearer to us, in her cobweb of turnpikes and secure in the fatness of the Miami valley, has embarked with an alarmed but determined zeal, almost too late, in the railroad career! How Cincinnati, after the sun of her prosperity has culminated, and when, to use the language of Dewitt Clinton, applied to New York city some thirty years ago, "she has reached the self-sustaining point," and how Louisville, even while I am writing, have poured out each a million of treasure to avoid, by an anchorage of iron, being thrown from their orbits! Look also, at the smiling countenance of our coy neighbor Indianapolis, whom nature destined to rurality and consigned to the genius of Parchment and law-giving, but whom art has snatched from this "manifst destiny" and made her the centre, geographically at least, of this western world! *Many* railroads cannot be built. Those favorably situated as trunk lines, and first in time, secure to the regions they penetrate advantages, that we now can scarcely realize.

Growth of Western Cities.

By the complete returns of the census of this city, it appears that the population of Chicago on the 1st of June last, was twenty-eight thousand, two hundred and nine.

To show how rapid has been the increase of the Garden City, we append the census of preceding years as follows:

Year.	Population.
1845	12 088
1846	14,164
1847	16,859
1848	20,724
1849	23,017
1850	28,209

As compared with other lake cities, Chicago, by her rapid strides, bids fair soon to lead them all, as the following table will show:

	1845.	1850.
Milwaukee	9 508	20.035
Detroit	13,055	21,057
Cleveland	——	17.600
Buffalo	29.773	42,266
Chicago	12,088	28,209

North Carolina.

Wilmington and Raleigh Railroad.—The annual meeting of this company was held at Wilmington on the 14th inst., at which the following named gentlemen were re-elected directors, viz:—General John McRae President, P. K. Dickinson, Edward B. Dudley, Gilbert Potter, O. G. Parsley, Wm. A. Wright, and J. D. Bellamy.

The report of the directors was made and directed to be printed. The company voted "to apply the available means, $45,000, to the extinguishment of the debt of the company, and the President and directors are instructed to apply it to the payment of such debts as may in their judgment most conduce to the prosperity of the company."

The above embrace the chief matters acted upon as far as we could gather from newspaper reports of the proceedings. We hope soon to receive the report, the substance of which we shall lay before our readers.

Vermont.

Vermont Central Railroad.—From the recent annual report of this company, we make the following extract, showing its financial condition:

Construction	$3,991,690
Equipment	366,847
Due C. Paine for materials	51,655
Interest paid on loans and bonds	242,735
Commissions on sales of bonds	8,820
Interest paid to stockholders	471,673
Amount to debit of suspense account	13,996
Cash on hand	28,728
Notes receivable	451,807
Stocks—Boston and Prov., Vt. Central, and Grand Junction railroad, Vt. Telegraph, &c	212,115
Amount to debit of individuals, includ. S. F. Belknap's acc. previous to Sept., 1849	608,364
Running expenses from June, 1848, to Nov. 1, 1850	144.590
Profit and loss	1,096
	$6,594,026
Cash paid in	$4,575,242
Funded debt—bonds due 1852	597,000
" " " 1856	192,400
" " due stockholders, payable in bonds	79,248
Notes payable	730,550
Earnings of road from June, 1848, to Oct. 1, 1850	381,182
Forfeited assessments	977
Due Vermont and Canada road	37,427
	$6,594,026

Steamboat Building in the U. S.

We copy from the Cincinnati Chronicle the following statistics of the number of steamers built in the United States since 1824—twenty-five years in periods of five years each.

From 1824 to 1829	194
From 1829 to 1834	304
From 1834 to 1839	405
From 1839 to 1844	521
From 1844 to 1849	969
Total	2,492

Two thousand five hundred steamboats built within twenty-five years! These boats have averaged about 200 tons, and consequently the steamboat tonnage in that period has amounted to five hundred thousand tons!

But, let us see what part the west had in this business. From the reports on commerce for the years 1846, '48 and '49, we find, that in three years, the steamboats built in the west compare with the total number, as follows:

	In the west.	Total.
In 1846	130	175
In 1848	152	225
In 1849	155	208
Aggregates	437	608

Thus we see that two-thirds of the steamers built in the Union, were built on the waters of the west.

The proportions built in Ohio and in Cincinnati stand thus:

	In Cincinnati.	In Ohio.
In 1846	29	34
In 1848	16	17
In 1849	38	44
Aggregate	83	95

It appears that one-sixth part of the steamboats built in the Union are built in Ohio, and one-seventh part built in Cincinnati.

The largest number of steamers built, at one place, are built in Pittsburgh, and its neighborhood. Several boats, within the last two or three years, have been built at Brownsville, on the Monongahela, but are recorded at Pittsburgh. The next largest place for steamboat building is Cincinnati; but in the course of the last twenty years there has been little difference between steamboat building at Pittsburgh or Cincinnati.

As to the number of steamers moving along the western waters, we can approximate the number very nearly. In the year 1826, there were 143 steamboats carrying 24,000 tons, navigating the western waters.

In the last five years, there have been built 1,000 steamboats, and of those 700 were built in the west. The life of a steamboat does not average more than five years on the western rivers, but there are a large number of boats, which have been patched up, and are much older than five years. It is safe to say then, that there are more than eight hundred steamers now running on the western waters, six times as many as in 1826. Thus we see one element of the growth of western commerce; a commerce whose magnitude must at an early day surpass anything the earth has yet seen of commercial developments.

Peat--Important Discoveries.

The Irish California of 1848.

About a year and a half ago Lord Ashley and O'Gorman Mahon startled the House of Commons by an announcement that a method had been discovered by which Irish peat could be made to yield a variety of products of the most valuable kind, which would realise in the market a profit of upward of 100 per cent. Much excitement was created by it at the time, and it was boasted that Ireland had at length found a means of wealth that would raise her forthwith to the 'hight of prosperity. A few explanations, however, showed that Lord Ashley, in speaking on an Irish subject, had fallen into the common infection of Irish precipitancy, and that although the products he mentioned could undoubtedly be obtained, there was no satisfactory evidence as to the real cost of the process and its consequent profit. He had, it is true, produced a candle made from the peat, and had lighted it on the table of the House, but without some illumination in the way of actual figures, this step could have only the effect of a pretty trick.

Since that time, however, the party by whom the patent was taken up [Mr. Owen, a private gentleman of property and of unquestionable integrity,] has caused the experiments to be carried on upon a definite scale, and results have at length been arrived at, it is said, of the most satisfactory kind, by which not only the candles and other products can be exhibited, but their cost, as it would appear, can be definitely estimated. The following statement of the annual expenditure and produce of the trial works for one year has just been placed in my hands:

Expenditure.

36,500 tons of peat, at 2s. per ton	£3,650
455 tons of sulphuric acid, at £7	3,185
Wear and tear of apparatus, &c	700
Wages, labor, &c	2,000
Cost of sending to market and other incidental charges	2,182
Profit	11,908
Total	£23,625

Produce.

365 tons of sulphate of ammonia at £12 per ton	£4,385
255 tons of acetate of lime, at £14	3,575
19,000 gallons of napththa, at 5s	4,750
109,500 pounds of paraffine, at 1s	5,475
73,000 gallons volatile oil, at 1s	3,656
36,000 gallons fixed oil, at 1s	1,800
Total	£23,62

These results have not yet been made public in any way in London, but if they should be fully borne out they will create a great sensation, since nearly one-seventh of the whole surface of Ireland consists of bog. The commercial value of the various articles has been stated considerably below the existing market quotations, and the charcoal which would also be obtained in the process has been entirely omitted from the estimate, as well as the subsequent value of the land that would be reclaimed by the removal of the peat. The statement shows, nevertheless, a profit of more than 100 per cent. The paraffine is a fatty, inodorous matter, and it is from this that the candles are made. I have one of them burning before me at this moment, and its appearance and flame are the same as wax. The light, however, seems rather less white than from the spermaceti. The largest candle manufacturers in London have fixed the price they are willing to give for the paraffine at 1s. per pound.

POPULATION OF BALTIMORE.

The following are the complete returns of the population of this city.

Districts.	Comprising.	Free.	Slaves.
1st,	1st and 2d wards,	23,981	164
2d,	3d and 4th wards,	19,003	445
3d,	5th and 17th wards,	15,417	129
4th,	6th and 9th wards,	13,512	243
5th,	7th and 8th wards,	16,480	135
6th,	10th ward,	4,703	419
7th,	11th and 18th wards,	20,255	420
8th,	13th ward,	5,303	265
9th,	14th ward,	7,205	176
10th,	15th and 16th wards,	15,739	441
11th,	12th, 19th, 20th "	24,403	287
20 wards		166,001	3,124
Entire population			169,125
Dwelling houses actually occupied			25,006
Number of deaths reported from 1st June, 1849, to 1st June, 1850			3,650

CONGRESSIONAL APPROPRIATIONS.

More than three pages of a supplement of the National Intelligencer are occupied with a report of the clerk of the House of Representatives, detailing the appropriations made during the first session of the thirty-first Congress. The aggregates under the several heads are as follows:

Civil, diplomatic and miscellaneous	9,388,388 32
Military and fortifications	9,341,822 45
Indian department, including, naval, revolutionary, and other pensions.	4,537,573 81
Naval service	10,413,135 39
Postoffice department	5,447,589 82
In fulfilment of the treaty with Mexico	3,360,000 00
	$42,488,509 77

Pacific Railway.

The Tribune is out with a long article in defence of "Whitney's Railroad." As it is a "Land Reform" paper, it attempts to show the compatibility of this grant with the principles it advocates. In the article referred to, after reciting the nature of the proposed grant to Mr. Whitney, it goes on to say, "that the land does not in any sense pass into Mr. Whitney's own possession; he is merely charged with the right of selling it; the title comes directly from the government." This is a direct mis-statement of the nature of the grant, as will be seen by the following extract for the bill reported in his favor. The bill provides that—

"Said Whitney shall first survey, fix upon, and locate the route for said road to a suitable bridging place on the Mississippi, if the road commence on or near Lake Michigan, or, if commencing at the other point, to such distance as shall be necessary to secure the land for the purpose aforesaid. He shall also commence the work with machinery, preparations, and arrangements for its conutinuance, and complete ten miles of road, according to the best plan of construction of railroads in the United State at the present day, with a single track, on a guage or width of not less than six feet, and with an iron rail of not less than sixty-four [64] pounds to the yard, at his own expense, and to the satisfaction of the commissioner hereinafter directed to be appointed, to be charged with the interests of the United States, who shall certify to the Commissioner of the General Land Office that said road

has been substantially made and constructed, and is in all respects in conformity to the requirements of this act, and that said road is progressing; and thereupon said Whitney, and his *assigns*, shall be entitled and fully authorized to sell, at public or *private* sale, the first five miles of the breadth of said land so set apart for the construction said road, and one-half part of the equivalent lands selected in lieu of what may have been sold; and the Commissioner of the General Land Office shall cause patents to be issued the same as for lands sold by the government, *said patents to be delivered to said Whitney for the purchasers under contracts by and with him;* and the title shall be the same as if they had purchased directly from and paid to the government for the lands."

Now Mr. Whitney may assign his grant the moment he gets it, and Congress is bound to convey the land to his grantee, who, if he has got money enough, may build the road for 800 miles, and hold every acre granted for this distance. Or, Mr. Whitney may cause a conveyance to be made one day, to one person, and take a reconveyance the next, and hold the whole amount himself. Curious "Land Reform" this. The Tribune either will not see the truth, or is most egregiously humbugged in this matter.

Michigan.

Michigan Central Railroad—The traffic over the Central Michigan road shows a large gain over last year. The earnings thus far have been—

	1848-9.	1849-50.
December	19,103 84	36,749 20
January	17,390 65	16,006 07
February	15,367 25	19,362 78
March	18,243 67	28,673 10
April	34,485 08	53,892 91
May	74,190 28	108,734 52
June	48,386 68	70,313 56
July	33,683 71	56,585 03
August	45,009 98	78,195 44
September	95,544 91	117,078 00
October	126,128 50	165,572 93
November	78,835 06	*48,635 00
	$606,370 61	$800,659 54

* First twelve days.

The receipts for the present month are estimated at $100,000. Taking this estimate as correct, and the total receipts for the current year are $910,859 54—an increase of $304,388 93 over last year.

Ohio.

Lake Shore Junction Railroad between Cleveland and Sandusky City.—The Sandusky Clarion states that "this important link in the great thoroughfare to Boston and New York, was put under contract on very favorable terms at Elyria, on the 13th inst., and the work has already commenced, with a certainty of its entire completion within the year.

The contractors are gentlemen of great energy, moral worth and high character; and abundant means for the rapid prosecution of the work are provided. The distance to Cleveland is 55 miles; from Sandusky City to Toledo is 43 miles; making the length of the Lake Shore road 98 miles."

Indiana.

A large meeting was recently held by the citizens of Falmouth and vicinity to facilitate the early completion of the Jeffersonville road to intersect the Terre Haute and Richmond route at Cambridge City. The total cost of this road, 124 miles, is estimated at $1,055,600.

A railroad meeting was held on the 2d inst., at Cambridge City, to aid the great railway enterprises of the west, and especially to hasten the completion of the Terre Haute and Richmond railroad and the Jeffersonville road to Cambridge City. This meeting resolved that it was for the interest of the Jeffersonville railroad company to extend their road from Columbus to intersect the Terre Haute and Richmond road at Cambridge City, and that they were in favor of tendering to the Jeffersonville company the use of "our road from this place east."

The board of directors of the Terre Haute and Richmond road, and of the Dayton and Western railroad company were also requested to take this matter into consideration.

Tehuantopec Railroad.

This work is making very rapid progress; about $1,000,000 has been subscribed to the stock of the company in New Orleans—a sum sufficient to the immediate wants of the company.

The necessary steps have also been taken to open this route immediately for passengers going to California. A steamboat has been chartered to run between New Orleans and the Coatzacoalcos river. New Orleans is fully aroused to the importance of this work, and is the whole city is interested in the enterprise, we may expect to see the whole line opened with all the dispatch consistent with the magnitude of the undertaking.

Vermont.

Vermont Central Railroad.—At the meeting of the Vermont Central railroad company at Burlington, on Tuesday, the following gentlemen were appointed directors for the ensuing year: Chas. Paine, of Northfield, president; James R. Langdon, of Montpelier; J. P. Putnam, Charles O. Whitmore, and James C. Dunn, of Boston; John Smith, of St. Albans; and John Peck of Burlington.

DISCOVERY OF A THIRD RING TO THE PLANET SATURN.

We understand that last night the existence of a third ring around this planet, which had been for some time suspected, was ascertained by the astronomers at the Observatory at Cambridge. It is terior to the two others, and therefore its distance from the body of Saturn must be small. It was well observed through the great Equatorial, with powers varying from 150 to 900, the evening for astronomical observations being remarkably fine, perhaps the finest since the establishment of the Observatory, although, singularly enough, the sky was so hazy, that to the naked eye only the brighter stars were visible. It will be remembered that the eighth sattellite of this planet was also discovered at Cambridge. by Mr Bond, about two years since.—*Boston Traveller.*

Ohio.

Mad River and Lake Erie Railroad.—Earnings in October, 1850:

Passengers	$25,778 67
Freight	37,485 09
Mails	717 91
	$63,981 67
Expenses	20,452 30
Net income for the month	$43,529 37

This amount, we are informed, is one and three quarters per cent on the cost of the road.

Railroad Connection West of the Ohio River.—Contracts are advertised for letting 22 miles of the Columbus, Piqua and Indiana railroad, between Covington, Miami county, and a point in Champaigne county. The Piqua Register says:—

"This road, then, which is intended to form an important link in the great Central railroad thro' Ohio, connecting at the Ohio river with the Baltimore and Ohio railroad and the western line of our great State with one to the Mississippi river and another extending northwest to Chicago, etc., will be made and that too, in a reasonably short time. The present condition of the company is such as to fully warrant the step the board has now taken; and its prospectus such as to justify the belief that the work will go forward uninterruptedly to a speedy completion. The agent who was sent east by the board a short time since with the county and township bonds subscribed, has returned—having made an arrangement very favorable to the interest of the road and entirely satisfactory to the company."

Southern Michigan and Northern Indiana Railroad Companies.

The directors of these companies met in the town of Elkhart, on the 22d ult., it was settled that Bristol, Elkhart, Mishawaka, South Bend and Laporte should be points on the main line of the road, and and a resolution was adopted, "That the road from Toledo to Laporte shall be completed and the cars running on the whole line by the first day of January, 1852."

Arrangements have also been made to complete the road through to Chicago in the same time.—The iron road, uniting the Mississippi and Atlantic, by this route, will soon be completed. The road from New York to Dunkirk will be finished in May next—from Dunkirk to Cleveland the entire line is rapidly progressing, and will be done in 1851. From Cleveland to Toledo, the necessary means are secured, and arrangements are being made for its speedy completion. The Chicago and Galena road is progressing rapidly, 42 miles being already built. Thus, it is confidently asserted, that the Mississippi and Atlantic will be united by an iron road, and by this route, 1200 miles in length, within the next two years.—*Cin. Gaz.*

Connecticut.

New London Railroad.—We understand this road is to be immediately put under contract, from this city to Saybrook—and the balance of the route as soon as it is settled whether it will run to New London or Norwich; a strong interest having sprung up in the latter city to favor its connection with the Norwich and Worcester road. As soon as that point is settled, the whole project will be pushed on with vigor. We think it will be operated during the year 1851.

New York.

A party of engineers are now engaged in making a survey between Little Sodus Bay and Oswego, for a railroad connecting Lake Ontario with the New York and Erie railroad, and passing through Auburn.

The subscriptions already raised in that city, and in the county, place this enterprise among the practicabilities and probabilities.

New Jersey.

Notice is given in the Sussex Register of an application to the next Legislature to charter a company with a $500,000 capital, to build a railroad from the line of division between New York and New Jersey, through Warren and Sussex counties to the Delaware river, within six miles of its junction with Paulus Kill.

The following applications are to be made to connect, the next New Jersey Legislature, viz:—for a railroad from Freehold to connect with the Delaware and Raritan Canal and railroad, at or near Dean's Pond; for a railroad from a point on the Delaware river, at or near Camden, through Burlington, Ocean and Monmouth to some point on Raritan Bay, at or east of Keyport, in Monmouth county, with a capital of $2,000,000, also to charter a railroad company with $500,000 capi-

tal to construct a road from some point on the line of division between Warwick and Blue Mountains, through Sussex and Warren to the Delaware river within a mile of Paulus Kill.

AMERICAN RAILROAD JOURNAL.

Saturday, November 30, 1850.

The results that are destined to flow from the completion of the projected lines of railroad which are to connect the extreme parts of our country, and to unite our great Atlantic cities with the Mississippi valley, can hardly be appreciated; though the growth of New York for the five past years affords a pretty good illustration of what we may expect to see in the progress of Philadelphia and Baltimore, and in the increased growth of New York, when their great lines of railroad extending west shall be completed. The growth of Baltimore and Philadelphia for the past ten years has depended chiefly upon the increase of the business of the country with which they were immediately connected. Baltimore yet enjoys no connection with the Ohio, either by railroad or canal. Philadelphia is connected with this river by a canal, but this is interrupted by the Alleghanies, and from the unfavorable nature of the country for a work of this kind, it has failed to secure to that city what was anticipated from it. Boston, taking into consideration her natural advantages, has shown a much more rapid growth than either Baltimore or Philadelphia, and is unquestionably the third city in the Union, if we number among its inhabitants all that properly belong to it, from their business connections. By far the larger part of her business men reside out of the city. The conveniences of railroads enabling her merchants residing from five to ten miles out to reach their places of business with the same ease that a New Yorker, residing above Bleecker street, can reach his. Boston is the least favorably situated for western trade than either of the above cities, and feels more sensibly the influence of New York; yet owing to her magnificent lines of railroad, she has, as we have said, gained much the faster.

New York now enjoys means of intercourse with the west vastly superior to any Atlantic city, tho' this is almost entirely interrupted for about five months each year. Since the completion of the Michigan Central railroad, and the railroads from Cincinnati and Lake Erie, the journey from this city to Chicago and Milwaukee, can be performed with the greatest ease in three days, and by means of the Illinois canal, the Mississippi can be reached over the same route much quicker, cheaper and easier, than through any other. The consequence has been, that this has become the great route of travel in the summer months, not only for western, but for a great portion of the travel between the north and south. New York at the same time enjoying the monopoly in the export of western produce, the opening of the above great line for *travel* has tended to concentrate business in this city for a few years past to a remarkable degree. This increase of business is shown in the growth of this city for the past five years, which has been at the rate of more than 50,000 per year, including its suberbs, where her business men reside. Brooklyn, New York and Williamsburgh contained in 1845, 430,000 inhabitants. These cities now contain about 680,000, showing an increase in this period of 250,000, to say nothing of neighboring villages, which are increasing with extraordinary rapidity.

No small part of this increase is owing to the superiority of our avenues for communicating with the west. New York is now the most accessible of all her rivals, and through the means of intercourse she enjoyes, she feels in her own growth every step made by the great west in its onward career. Every mile of railroad or canal constructed adds its quota to the vast flood which is now pouring in upon her, and is, as far as the business of this city is concerned, as much a New York canal and railroad as if it were within the limits of this State.

In the growth of New York, we see the influence which works that facilitate intercommunication exert upon the growth of towns; and from her growth we can form some estimate of what the Pennsylvania Central railroad, and the Baltimore and Ohio railroad will accompiish for the two great cities which constitute their eastern termini. New York is now the most forcible illustration that can be formed of the influence of railroads, as her more rapid growth is directly attributable to her more favored position in reference to such works.

Pennsylvania.

A railroad convention is to be held at Allentown on the 3d of December, with a view to connect the city of New York with the Schuylkill coal fields, by a direct road via Allentown. The people of Schuylkill and Lehigh counties are urging the project. Meetings are being held in Pottsville and Tamaqua to appoint delegates.

Southern Railroad.

Among the numerous projects for connecting the Atlantic and Mississippi by railroad, the one requiring the least effort to complete, and at the same time one of the most important, is the *Southern railroad*, the object of which is to connect the Vicksburg and Jackson railroad, in Mississippi, and the Montgomery and West Point road, in Alabama.—The completion of this link would at once open a railroad communication between Charleston and Savannah and the Mississippi. The completion of the Atlanta and Lagrange railroad is soon to supply the only link wanting in the chain, from Montgomery to the Atlantic coast; while on the western end of this great line, a railroad is already in operation to Brandon. From Brandon to Montgomery the distance cannot be over 250 miles; with a route so favorable, that the whole cost could not exceed $15,000 to the mile. The country on the line of the proposed road, is one of the most fertile and wealthy portions of the South, with abundant means. The only thing that can be lacking is the will, to secure this portion of the line at the earliest practicable moment. At Selma, which is about 50 miles west of Montgomery, the proposed road would connect with the Alabama and Tennessee railroad, which is now pushing northward with energy and vigor, to connect with the great line in progress through eastern Tennessee and western Virginia. Between Selma and Montgomery, the Alabama river would at present supply the immediate necessity for a railroad, leaving the distance to be built only about 200 miles.

Some movements have recently been made to secure the commencement of this work, but we do not learn that they have yet amounted to much. No man has yet been *developed*, as far as we can see, with a *mission* to carry out this work. We are satisfied that should this matter be properly brought before those immediately interested, and public sentiment concentrated upon some feasible plan, its accomplishment would be a very easy task; and that the enterprise might prove a very profitable one. There is one thing, about which those interested may feel assured, that they will never see a more favorable time, as far as abundance of money and the low price of iron is concerned, for the construction of a railroad, than the present moment.

Indiana.

Chauncey Rose, Esq., President of the Terre Haute and Indianapolis railroad company has just completed a contract on favorable terms for the iron for the entire road, (about 70 miles.) The whole quantity is to be delivered at New Orleans on or before May next, and it is intended to have the road for the whole distance between Indianapolis and Terre Haute opened for traffic during the next autumn.

Pennsylvania.

We compile from the Messenger the following synopsis of the Pittsburg, Steubenville and Indiana railroad company:—

"Organized early last spring; capital then, $500,000; present capital $600,000—10 per cent paid in; surveys in progress, under Mr. Blickensderfer; a portion of the road to be located this winter. The President, Hon. Daniel Kilgore, and James Parks, Esq., a director, are actively procuring subscriptions to the capital stock. The road is intended to reach from Pittsburg, Pa., to Newark, Ohio; and it is expected the excavation will be commenced next spring."

St. Josephs and Hannibal R. R.

The Mississippi is no longer the "*Ultima Thule*," the western limit of the projects designed to open to a market the vast valley to which that river gives the name. This is now transferred to the Missouri, some two or three hundred miles from what a few years since was regarded as the extreme boundary of enterprises of this kind.

Two projects are now engaging the attention of the people between these two rivers: one a railroad from Rock Island to Council Bluff, and another between Hannibal on the Mississippi, and St. Josephs on the Missouri. The former of these is as yet only a *project*; the realization of which must depend upon the settlement of the country on its proposed line. The latter has this condition necessary to success, a well settled country, possessing ample means for the execution of such a work; the country on the line of this road being one of the best parts of Missouri, as well as the most densely settled.

Those interested in this road have two objects in its construction; first to secure to themselves the advantages of a railroad for ordinary purposes, and next, to carry to the Missouri river the great lines of railroad which are now in progress from the East. It will be seen, by reference to a map, that a prolongation of the Springfield and Meridosia railroad west, would strike the Mississippi near Hannibal. The Springfield and Meredosia, in connection with the Northern Cross road of Illinois, will form one of the trunk lines through that State, which will eventually connect itselt with the roads of Indiana. The Hannibal and St. Josephs railroad will be a direct continuation of this great line, and will constitute a much shorter route for emigrants going west, than the more southern one by St. Louis. This fact would give to this road a large share of *through* travel. The country thro' which the proposed road is to run, is almost entirely destitute of navigable rivers, which adds to the necessity of this road, as an outlet for its produce.

The subject of railroads is a new one for the people of this State, but it is now receiving great at-

tention, and there can be no doubt that their construction will be commenced and pushed with the same vigor and energy which we now witness in Ohio and Indiana. Missouri is fast losing the idea of remoteness which we have been accustomed to attach to her. She is now the central State in this great confederacy, and through her must run the great thoroughfares, through which the tide of emigration will flow from one extreme to the other.—She is inferior to no one, if she is not superior to all, in extent, in fertility of soil, and in mineral wealth; and must soon become the theatre of some of our greatest enterprises, designed to develope this wealth, and make it available to the wants of men.

New Line of Steamers.

Our readers have probably seen in the papers notices of a projected line of steamers between Glasgow and Montreal. The Portland Advertiser of the present week states, that Mr. Buchanan, an eminent Scotch merchant, who is also connected with mercantile houses both at Montreal and in this city, visited that city the past week with a view to ascertain the fitness of the harbor for a steamship terminus, and also the exact condition of the railroad enterprises in which Portland capital is embarked, and especially as the prospects of the Montreal road. In company with Mr. Poor, he went over the Atlantic road as far as Bacon Falls in Greenwich, sixty miles from Portland, and examined all the wharves and other localities in Portland and in the neighborhood. Mr. Buchanan sailed in the Africa from New York on Wednesday, and will probably bring his scheme to the attention of the public the coming winter. The plan is to construct three iron steamers of 1,600 tons measurement, of the same general character as the steamer "Glasgow City," each steamer capable of carrying 6,000 barrels of flour or an equivalent amount of freight, with accommodations for seventy five first class and seventy five second class passengers—the steamers to run alternately from Glasgow to Portland and Montreal, till the completion of the road, and after that to Portland direct. These steamers would cost about £30,000 each. Certain New York houses propose to join in the carrying out of this scheme.

New York.

Rome and Watertown Railroad.—This road, which proposes to connect Rome with Cape Vincent, on the St. Lawrence, opposite Kingston, via Watertown, is making rapid progress towards its completion. The whole length of line is 97 miles. That portion of the road between Rome and Watertown, a distance of 73 miles, will be in readiness for the rails in July next. From Rome the cars are now running 35 miles, and will soon run seven miles further.

This road may be looked upon as a rival, to some extent, of the Ogdensburgh railroad, in connecting the eastern part of Lake Ontario with tide water. From Sackett's Harbor to Albany, by this route, the distance is about 180 miles, and to New York 320, over very favorable, and in most cases descending grades. From Ogdensburg to Boston the distance by the Vermont Central and Northern railroad is over 400 miles. Sackett's Harbor too has a great advantage over Ogdensburg, in being much farther west, as well as much more accessible. In reaching tide water, the Rome and Watertown road has the advantage of over 200 miles of railroad, much better grades, and a much more accessible port on the lakes; and produce can reach New York by this route by a line nearly, if not quite 100 miles shorter, than the route to Boston.

We give these data not for the purpose of injuring the Ogdensburg, or the Vermont roads, but simply to show that this city has nothing to fear from them, and that consequently no good reason exists against giving those roads the right to bridge Lake Champlain. That a large amount of produce designed for consumption in New England, would pass over this road there is no doubt; but very little if any would go over it for exportation. As far as home consumption is concerned we shall oppose no objection, and certainly none exists as far as our export trade is concerned. Nothing can ever deprive New York of this. The bulk of western produce must always come through the Erie Canal. The tolls on this canal will be reduced just so fast as it is necessary to enable it to retain its business. But should the produce which now passes through this channel leave it for the railroad, there is but little fear of its taking the long circuit by way of Ogdensburg, and climbing the Green Mountains, where they can reach tide water by a much more direct and easy route of half the length of the former.

New York.

The work on the Canandaigua and Corning railroad, we understand, is being prosecuted with all possible dispatch, and it is expected that by the first of August next it will be completed and in running order. By this route the time between Rochester and New York will be reduced to about 14 hours.

Ashuelot Railroad.

On Monday next the Ashuelot railroad, from Keene, N. H., to South Vernon, Vt., where it connects with the Connecticut river railroad, is to be open for public travelling, bringing Hartford in direct railway communication with Bellows Falls and Burlington, Vt.

The construction of this work forms a continuous line of railroad from New York to the head of Lake Champlain, a short distance south of Montreal.

Extension of the Morris and Essex Railroad.

A survey has been made under the superintendence of Mr. Bassenger, Engineer of this company, of the proposed route of the extension of this road from its present terminus to the Delaware Water Gap. The line of the proposed extension will commence at Dover, where the present road terminates, and passing through Stanhope and near Hackettstown, along the valleys of the Musconetcong, the Pequest and Beaver Brook, ends at the Water Gap. A branch can be constructed from the main line to Belvidere, distant only about two miles. At Waterloo, the line will connect with the Sussex Mine railroad, running from that place to Newton. The distance from Dover to Belvidere, including the branch, is thirty-two miles. The curves are represented as favorable, and the grade nowhere exceeds fifty feet per mile. It is estimated that the whole cost of the road, including the equipment of the same, will not exceed $800,000.

Virginia.

Orange and Alexandria Railroad.—We learn that contracts in small sections for the Orange and Alexandria railroad, have been taken by the former sub-contractors, and others, and all the hands formerly employed, have resumed their work. In a few days, the work will be more vigorously prosecuted than it has ever yet been.

Cotton Spindles of the World.

The London Examiner gives the following table as an estimate of the number of spindles engaged in the cotton manufacture throughout the world:—Great Britain, 17,500,000; France, 4,300,000; United States, 2,500,000; Zollverein States, 815,000; Russia, 700,000; Switzerland, 650,000; Belgium, 420,000; Spain, 300,000; Italy, 300,000. Total, 28,985,000.

Kentucky.

The public debt of this State, as given in the Governor's Message, is $4,247,637 81

Virginia.

Central Railroad.—Boston, New York, Philadelphia and Baltimore all have their favorite and appropriate lines, by which they seek to draw to each "the trade of the West." This they regard as the source of that life blood which is to make them all great and prosperous. Richmond is now asking herself the question why she may not lay claim to a share of this trade. Geographically, she is nearer to Cincinnati, the great metropolis of the West, than any of her rivals. She possesses, at the mouth of the James river, a harbor inferior to none, with the exception of New York. Richmond and Virginia, both, have come to the conclusion that they are entitled to a pretty large share of this trade, the largest moiety perhaps. All this may be very true in the abstract, but this *right* depends entirely upon the use of the proper means to get it; the same that has already secured it to the more northern cities. Virginia must build a railroad direct to the Ohio, through which this trade may flow into her, diffusing as it goes, life, energy and strength.

The following tables are claimed by the Richmond people, as showing the relative distances from Cincinnati to the cities of New York, Philadelphia and Baltimore in direct lines; and also by routes practicable for railroads.

The distances in direct lines are as follows:

From Cincinnati to New York	....	535 miles.
" Baltimore	....	400 "
" Richmond	....	360 "

These are the air-lines; but by practicable railroad routes they will be expressed thus:

From Cincinnati to New York—		
Via Baltimore	.....	780 miles.
Via Buffalo	.....	900 "
Via Dunkirk	.....	850 "
From Cincinnati to Baltimore—		
Via Wheeling	.....	700 "
From Cincinnati to Richmond—		
Via Chillicothe and Guyandot		596 "

The work by which Richmond proposes to secure a portion of the western trade, is the *Central railroad.* This road is now in operation from that city to Charlottsville, a distance of 90 miles. From the latter place to Staunton, a distance of 40 miles, the road is in progress. From Staunton to the Ohio at Guyandotte, on the mouth of the Big Sandy river, a distance of something over 200 miles, nothing is done; and what is still more unfortunate, the greater part of the country for this distance is comparatively a forest, and can afford but little present aid to such a work. When this road strikes the Ohio, it will connect with the Cincinnati and Belpre railroad, of the construction of which there cannot now be a doubt.

The great obstacle to the construction of this line, and in realising all the benefits that are expected to flow from it, is the great Virginia link which is still untouched. Efforts are now making in various parts of that State to secure the necessary means to commence operations here. The State, we believe is to subscribe three-fifths of the sum re-

quired. The counties of Monroe and Greenbrier have each subscribed $50,000. A movement is now making in Richmond to secure a subscription of $100,000 in that city. If this sum should be voted, still these subscriptions make up but a fraction of the amount needed. A large sum, we presume can be obtained by private subscription.—But this is a work which will tax the energies of Virginia to the utmost. It is a road that must be built, and the sooner she sets about it the better.—Its construction is demanded upon every consideration of interest as well as State pride. It is the only work that can realise the expectations formed from the James River and Kanawha canal. Its immediate construction is necessary to divert at an early stage, a portion of western trade and travel, before these shall form other channels too deep to allow anything to flow here. Virginia for the past half of the present century, has been a great sleeping giant—strong, but unconscious of her strength. From the first, and with capacities which should have continued her the first State in the Union, she is now the fourth, with every prospect of being soon eclipsed by many others. Let her take the same course that has enabled States with less resources to distance her, and she will soon regain her natural position.

To Contractors.

SIXTEEN MILES of the Grading and a portion of the Masonry of the South Side Railroad, extending to a point opposite Farmville, will be let on the 17th of December next. The work is to be finished by the 1st of January, 1852.

Profiles, Plans and Specifications, will be ready for inspection at Petersburg by the 10th of December.

C. O. SANFORD,
Chief Engineer.

South Side Railroad Office, 20th December, 1850. 3t47

Rochester Scale Works.
ESTABLISHED IN 1841.

THE Subscribers are manufacturing and prepared to furnish upon order all kinds of Scales, such as Canal Weigh Lock Scales, from 100 to 400 tons capacity,
Railroad Track and Depot Scales,
Cattle, Coal, and Hay Scales,
Dormant and Wheat or Hopper Scales,
Portable Platform, and Counter Scales,
Sugar Crushers, Letter Presses,
Warehouse Trucks, Wheat Cars, etc., etc.

Our long experience in the business, and the facilities we have for manufacturing, enables us to supply all orders promptly. Every article made of the best material and warranted.

REFERENCES:

J. W. Brooks, Supt. Michigan Centarl R.R., Mich.
Benj. Loder, Prest. N. Y. & Erie R. R., New York.
Charles Minot, Supt. do. do. do.
The Hon. Board of Canal Commissioners and Engineers of Erie Canal Enlargement.
E. F. Osborn, Supt. Mad River & Lake Erie R.R., O.
Sam'l Brown, Chief Clerk Freight Department New York & Erie R.R., New York.
John Wilkinson, Prest. Utica & Syracuse R.R., N.Y.
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Henry Martin, Prest. Buffalo & Attica R.R., N.Y.
John Crockford, Agent Patterson & Hudson River R. R., New Jersey.
D. C. M'Callum, Supt. Bridges & Buildings N. Y. & Erie R.R., N.Y.
B. Higgins, formerly Supt. Mansfield & Sandusky City R.R., Ohio.
A. H. Barber, Agent Mansfield and Sandusky City R.R., Ohio.
Charles Butler, Prest. Board of Trustees Wabash & Erie Canal, Indiana.
Jesse L. Williams, Chief Engineer Wabash & Erie Canal, Indiana.

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India-rubber Goods for Rail Road Purposes.

THE Goodyear Metallic India rubber Co., (F. M. Ray, Agent) No. 104 Broadway, New York, (1 door from Pine street) has on hand and offers for sale at the lowest prices, an extensive assortment of Rubber Goods suitable for Railroad Companies, such as Hose of all sizes, Fire Buckets, Water Pails, Steam Packing, Car Covers, Tarpaulins, Clothing of all kinds for brakemen, switchmen, etc. Belting, and many other articles—all manufactured from Goodyear's Metallic India-rubber, and warranted to give satisfaction.

India-rubber HOSE is in use upon many railroads, for Tanks and Water Stations. It requires no oiling, is unaffected by heat or cold and is in every respect a most desirable article, and much superior to leather. All sizes, from 1 in. to 6 in., or larger if needed, made to order.

The reputation of India-rubber for steam packing is well established, and it is now almost universally preferred to any other kind of packing. It will stand a higher degree of heat and last longer than any other substance. An assortment of every thickness from 1-32d in. 1½ in. always on hand.

Every article sold by the Goodyear Metallic India-rubber Co. is warranted, and will be offered to railroad companies at the lowest factory prices.

The Goodyear Metallic India-rubber Co. is a connection of the New England Car Co., and in addition to its large stock of goods for railroad and other purposes, has on hand a large assortment of F. M. Ray's Patent India-rubber Car Springs, both bearing and buffer, of all sizes.

Great Work on Bridge Building, etc., etc.

JUST published in medium folio, One Dollar, 75 cts. to subscribers.

Part III of a "THEORETICAL AND PRACTICAL TREATISE ON THE CONSTRUCTION OF BRIDGES IN STONE, IRON AND WOOD," including the Equibrium of Arches, the mathematical principles of the Oblique Arch, Suspension Arch, etc., Construction of Foundations in Water, Centering, Oblique Arches, etc., the application of Iron to Railroad Structures, Practical Tunnelling, Suspension Bridges, etc.; illustrated by numerous accurately executed Plans, Elevations, Sections and Details of Stone, Iron and Wood Bridges, Viaducts, Tunnels, Culverts, Machines, etc., constructed by the most eminent Architects and Engineers in Europe and the United States, and numerous Original Designs for Bridges, Viaducts, Culverts, etc. The whole calculated to meet the exigencies of Engineers, and assist Draughtsmen, Bridge Builders, Mechanics and Students. By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, sections, and details of the Cast Iron Girder Bridge on the South Eastern R.R., and the Timber Viaduct with Stone Piers and Abutments and laminating pine Arches 120 feet span on the Newcastle and Northshields R.R., accompanied by Articles on the construction of foundations, including Piling, Coffer-dams, Concrete, etc.

Published by George Duggan, 300 Broadway, New York, to whom all communcations should be addressed and subscriptions forwarded.

☞ Parties remitting Mr. Duggan $5. and the remainder $4 when they have been supplied with the first six parts of the "Theoretical and Practical Treatise on Bridge Building, etc.," shall receive it monthly as published. To those making Mr. Duggan a present remittance of $9, the work will be forwarded post free to any part of the United States.

Boardman's Patent Improved Steam Boiler and Furnace.

THE Patentee is now prepared to sell single or territorial rights to the use of the above named improvement. Recent experiments have demonstrated that this form of Boiler effects a saving of one-half the fuel required to run the best Cylinder Boiler with return flues, and about 40 per cent. of the amount used by Locomotive Boilers. The heat is so thoroughly applied to the water that the temperature in the chimney is reduced below 140 deg. The smoke and combustible gases are consumed within the furnace. The refuse gas instantly extinguishes flame or sparks, so that all danger from sparks is avoided. This Boiler is very compact in form, occupying less space than any other of like power.

References—Thomas H. Faron, Chief Engineer U. S. Mail Steamer Arctic, N.Y.; Messrs Mott & Ayres, and Mr. D. F. Jaycox, Chelsea Iron Works, 26th street N.Y.; Messrs. Tugnot, Dally & Co., Franklin Forge, 1st avenue, N.Y.; Mr. John Mills, Machinist, 319 5th street, N.Y.; Mr. W. C. Smith, St. Albans, Vermont; and Messrs. Goulding, Green & Conro, Keesseville, N.Y. Address, post paid,

H. BOARDMAN, New York.

Railroad Spikes, Boiler Rivets, etc.

THE Subscribers, Agents for the sale of James S. Spencer's, Jr., Railroad and Boat Spikes, Boiler Rivets, and Wrought Iron Chairs for Railroads, made at his Works near this city, will execute all orders with promptness, despatch, and of the best quality.

ALSO IMPORTERS of English refined and Merchant bar Iron; Extra refined Car and Locomotive Axles (from 3½ to 6½ inches in diameter); B. O. Locomotive Tire (welded by Baldwin). Also, supply Boiler and Flue Iron cut to pattern or otherwise.—Spring, Shear, and Cast Steel, etc., etc., etc.

T. & E. GEORGE.

Philadelphia, November 14, 1850.

Notice to Contractors.
ATLANTIC & ST. LAWRENCE RAILROAD.

PROPOSALS will be received by the subscribers, at Leary Tavern, in the town of Gorham, New Hampshire, until the 30th of November, for the Grading and Masonry of that portion of the Atlantic and St. Lawrence Railroad extending from Peabody's River in said Gorham, to the Connecticut River, a distance of about 30 miles.

Plans and profiles will be in readiness for examination after the 20th inst., at the Engineer's office at Gorham, N. H.

This line embraces some heavy work, and Contractors of means and experience will find this notice worthy of their attention.

Spirituous liquors will not be allowed on or about the work; nor will the propositions of Contractors be considered, who have heretofore failed to pay the laborers employed, on this, or any other public work.

Cash payments will be made monthly, reserving ten per cent. until the final completion of the contract.

WOOD, BLACK & CO.

Portland, Nov. 5, 1850.

NOTICE

For Proposals for Railroad Iron, for the Alabama and Tennessee River Railroad,

TO BE MANUFACTURED FROM ALABAMA ORE.

THE Alabama and Tennessee River Railroad Co. invite proposals, until the 1st of January, 1851, for Iron Rails, to be made of Alabama Iron, for the Northern Division and part of the Southern Division of their road, embracing a distance of about 105 miles. The rails are to be of the H pattern, in lengths of 18 feet, and weighing 63 lbs. per lineal yard. They are to be delivered on the Coosa river, at a landing to be hereafter designated, between Kimulgee ferry and Fort Williams, commencing their delivery on the 1st of November, 1851, and continuing it at the rate of from 80 to 100 tons per week, until the whole quantity required (10,500 tons) shall have been delivered. They are to be inspected by Lewis Troost, Chief Engineer.

It is proper to state to iron masters and capitalists at a distance, that the country traversed by the Northern and part of the Southern divisions of the road abounds in excellent iron ore and bituminous coal, and possesses every advantage for the successful manufacture of iron, health, cheap labor and provisions.

Further information may be obtained by addressing the President of the Company at Selma, Ala.

By order of the Board of Directors.

J. W. LAPSLEY, President.

Great American Engineering

AND MECHANICAL WORK, just published in a medium folio One Dollar, 75 cts. to Subscribers.

Part IX. of "Specimens of the Stone, Iron & Wood Bridges, Viaducts, Tunnels, Culverts, &c., &c., of the United States Railroads." By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, sections and details of the Timber Bridge—3 arches 150 feet span—over the Lackawaxen river, and Delaware and Hudson canal on the line of the N. Y. and Erie R.R., and of an improved R.R. Suspension Bridge, invented and patented by Joseph C. Avery, of the C. C. and C. R.R., Cardington, Ohio, with Articles on the Application of Suspension Bridges to R.R. purposes, and explanatory of the engravings of the Timber Bridge across the Patapsco river, at Elysville, on the line of the Balt. and Ohio R.R.

Published by GEORGE DUGGAN,
300 Broadway, New York.

To whom all communications should be addressed and subscriptions forwarded.

Emerson's Patent Ventilator,

ADAPTED to Cars, Engine houses, Public Halls, Factories, Churches, School Houses, Dwellings, Chimney Flues, etc.

This Ventilator is stationary, and cannot get out of order. It is constructed in such conformity to certain ascertained laws of pneumatics, as to insure a constant draft outward, whatever may be the changing direction of the wind. The Massachusetts Mechanic Association have awarded a gold medal to the Inventor, and the Manufacturers have already disposed of over 3,000 of the article. Manufactured and sold by

CHILSON, ALLEN, WALKER & Co.,
351 Broadway, New York.

Providence Tool Co.,

MANUFACTURERS OF

Plane Irons, Tooth Irons, Soft Moulding and Rabbet Irons, Cornice Irons, Plow Bitts, and Planing Machine Knives:

NUTS, WASHERS AND BOLTS.

—ALSO—

PLATE HINGES AND PICK AXES.

They are prepared to execute orders for all descriptions of Cold Punching and Job Work.

WM. FIELD, Agent. RUFUS WATERMAN, Treas.
PROVIDENCE, R. I.

Ibbotson, Brothers & Co's CELEBRATED CAST STEEL AND

Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY I. IBBOTSON, Agent.,
218 Pearl st., New York.

Faggotted Car and Engine Axles

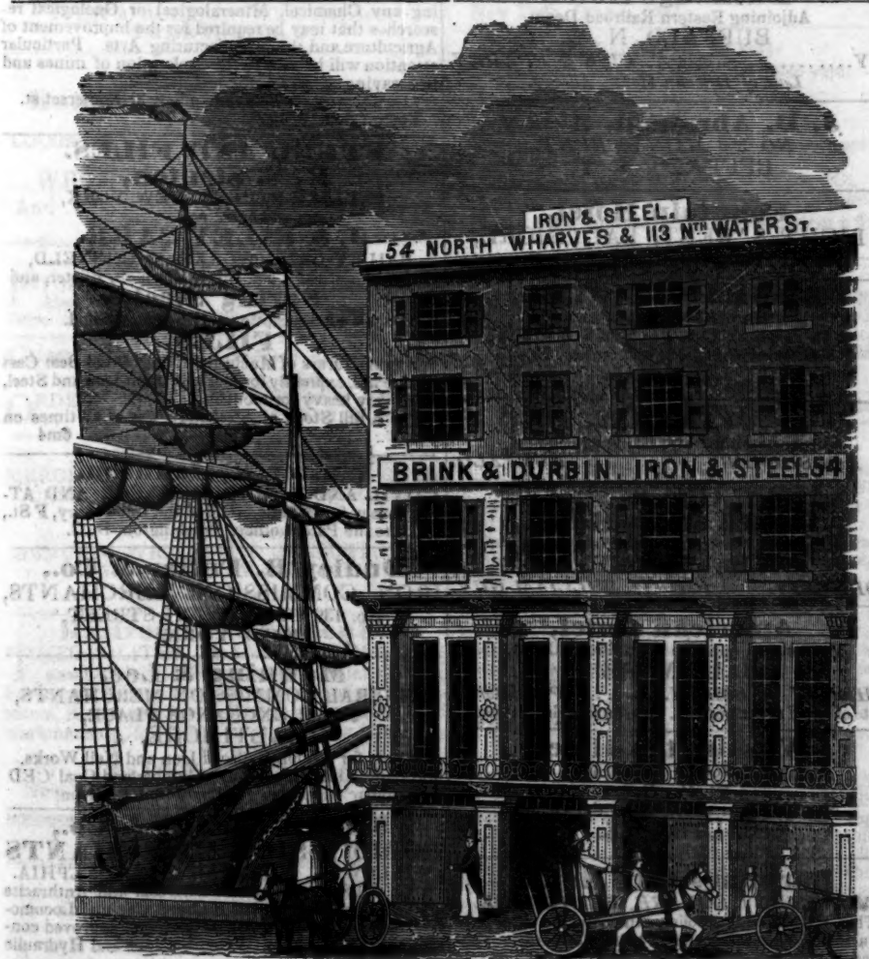
FORGED by RANSTEAD, DEARBORN & Co.,
Boston, Mass.

These Axles enjoy the highest repulation for excellence, *and are all warranted.*

American Cast Steel.

THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.

May 28, 1849.



To Merchants, Railroad Companies, Machinists and Boiler Makers.

THE subscribers beg leave to call attention to their very large stock of *Iron* and *Steel*—of American, English, Swede and Norway make—of all the different kinds in use. Also, Railroad Iron, Ship, Boat and Railroad Spikes. They are also Agents for the *Best Pennsylvania Locomotive Boiler and Tank Iron*, each sheet of which will be *stamped and warranted*, at lowest mill prices. Our prices for all kinds of iron will be found *very low*, either for cash or approved credit.

BRINK & DURBIN, *Philadelphia.*

GRAHAM'S COMPOSITION, to Remove and Prevent Incrustation (or Scale) in STEAM BOILERS.

THIS valuable composition having been fully and extensively tested, is now offered to the public, as a sure remedy and preventive for incrustations in steam boilers of all descriptions. By its use, all scale is entirely removed from the boilers of Ocean and River Steamers, Locomotive and Stationary Engines, in from 3 to 20 running days, according to the size of the boiler and thickness of the scale. In New Boilers, all incrustation is prevented at a trifling expense.

The preservation of the boiler, great economy of fuel and labor, safety, and increased speed, are among the advantages to be derived from the use of this composition.

Orders should state the quality of water used, viz: "Salt," "Fresh," or "Brackish."

For sale, with directions for use, by

W. H. NEWMAN,
75 Pearl street,
New York.

TESTIMONIALS.

New York, August 17, 1850.

We have used Graham's Composition in the boilers of the Steamship Southerner, during several voyages between this place and Charleston. The boilers were old and very foul with scale, a very large quantity of which was removed by the use of the composition, and no new scale was formed.

From our own experience and observation in the use of the article, we are fully satisfied that it will effectually remove the incrustation made by sea water, and also that it will effectually prevent its formation.

We are also satisfied that the use of it will be attended with a great saving of fuel, and that it has no injurious effect upon iron.

DAVID N. MAXON, Engineer,
BERRY, Master,
Steamship Southerner.

Steamship Philadelphia,
New York, August 27, 1850.

I have used "Graham's Composition for Steam Boilers," in the boilers of Steamship Philadelphia, on the voyage to and from Chagres, and am entirely satisfied that it will remove, dissolve and *prevent* all scale or incrustation in salt water boilers.

For the preservation of the boiler and economy of fuel and labor, I hereby recommend the employment of this composition in the Boilers of Ocean Steamers

WM. BISBY,
Chief Engineer.

Novelty Iron Works,
New York, July 5, 1850.

We have examined the specimen of Graham's Composition for preventing incrustation of steam boilers, and we believe it may be used with perfect safety in reasonable quantities for the purpose intended, as there does not appear to be any agent in the composition calculated to injure the iron.

STILLMAN, ALLEN & CO.

Piermont, May 20, 1850.

I have used "Graham's Composition," and find it to produce the intended effect; and I hereby, without hesitation, recommend it for Stationary, Marine and Locomotive Engine Boilers.

JOHN BRANDT,
Superintendent Motive Power
New York & Erie R.R.

New York, July 25, 1850.

In answer to many inquiries as to the practical effect of "Graham's Composition," I will state that I have used it in the boiler of the Steamboat Sunwick, which had become considerably incrusted with hard scale from both salt and fresh water. We used 10 lbs. per day, for three days, without blowing off the water until the fifth day, when all was drawn off. To our astonishment, we found the whole interior of the boiler as clear of scale and smooth as when it came from the hands of the maker. The following week, we tried the same quantity in a small steam tow boat. The boiler had old scale of long accumulation and very thick. We ran the boat three days without blowing off, and on the fourth day washed out the boiler and found it, like the "Sunwick's," perfectly clean and smooth as when new. I am therefore enabled to state that the use of the composition in these two instances under my own immediate observation and direction, has been attended with complete success.

JAMES MORROW,
Engineer Astoria Ferry

ENGINEERS.

Atkinson, T. C.,
Alexandria and Orange Railroad, Alexandria, Va.

Bancks, C. W.,
Civil Engineer, Vicksburg, Miss.

Buckland, George,
Troy and Greenbush Railroad.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W. H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Davidson, M. O.,
Eckhart Mines, Alleghany Co., Maryland.

Fisk, Charles B.,
Cumberland and Ohio Canal, Washington, D. C.

Felton, S. M.,
Fitchburgh Railroad, Boston, Mass.

Floyd-Jones, Charles,
South Oyster Bay, L. I.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Johnson, Edwin F.
New York and Boston Railroad, Middletown Ct.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Worcester and Nashua Railroad, Worcester, Mass.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Morton, A. C.,
Atlantic and St. Lawrence Railroad, Portland, Me.

McRae, John,
South Carolina Railroad, Charleston, S. C.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

Roebling, John A.,
Trenton, N. J.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Sours, Peter,
Rahway, New Jersey.

Stark, George.,
Bost., Con. and Mont. R. R., Meredith Bridge, N. H.

Steele, J. Dutton,
Pottstown, Pa.

Trautwine, John C.,
Panama Railroad—Address through office of Panama Railroad Co., 78 Broadway, N. Y.

Trimble, Isaac R.,
Philad., Wil. & Baltimore Railroad, Wilmington, Del.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Thomson, J. Edgar.,
Pennsylvania (Central) Railroad, Philadelphia.

Troost, Lewis,
Alabama and Tennessee Railroad, Selma, Ala.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

Williams, E. P.,
Auburn and Schenectady Railroad, Auburn, N. Y.

Williams, Charles H.,
Milwaukie, Wisconsin.

HOTELS.

Exchange Hotel,
Adjoining Eastern Railroad Depot,
BUFFALO, N. Y.
BY.....FISK & SPERRY,
Late of Delevan House, Albany.

J. D. Abraham, *Architect,*
NO. 300 *MAIN STREET,*
BFFFALO, N. Y.

Fountain Hotel,
LIGHT STREET, BALTIMORE,
P. THURSTON.....Proprietor.

DUNLAP'S HOTEL,
On the European Plan,
NO. 135 FULTON STREET,
Between Broadway and Nassau St.,
NEW YORK.

MANSION,
Corner of Maine and Exchange Streets,
P. DORSHIMER. *BUFFALO.*

GUY'S
United States Hotel,
(Opposite Pratt street Railroad Depot,)
BALTIMORE.
JOHN GUY. *WILLIAM GUY.*

American Hotel,
Pratt street, opposite the Railroad Depot,
BALTIMORE.
HENRY M. SMITH.....Proprietor.
Late of the Exchange & St. Charles Hotels, Pittsburg.

Washington Hotel,
BY JOHN GILMAN,
$1 *Per Day.*
No. 206 Pratt street, (near the Depot,)
BALTIMORE.

Barnum's City Hotel,
MONUMENT SQUARE, BALTIMORE.
This Extensive Establishment, erected expressly for a Hotel, with every regard to comfort and convenience, is situated in the centre and most fashionable part of the city, and but a few minutes' walk from the Railroad Depots and Steamboat Landings.
The House has lately undergone a thorough repair, embracing many valuable improvements, and will accommodate 250 Guests. BARNUM & CO.

JONES' HOTEL,
NO. 152 CHESTNUT STREET,
PHILADELPHIA.
Bridges & West, ... Proprietors.

BUSINESS CARDS.

Lithography.
JOHN P. HALL & CO.,
161 Main st., Buffalo, (Commercial Advertiser Build.)
Are prepared to execute all kinds of Lithography in good stole and at reasonable rates. Particular attention wil be paid to Engraving Railroad Maps, Engineer's Plans and drafts, etc., and orders in this line are respectfully solicited.

J. T. Hodge
Will attend to the examination of mining tracts near Lake Superior, and prepare Reports and Maps.
Address, during the Summer,
Ontanagon Postoffice, Lake Superior.

Cumberland Steam Coal,
FROM THE
FROSTBURG MINES, MD.
H. A. TUCKER,
Agent of Frostburg Coal Co.
No. 50 Wall Street, New York.

Eaton, Gilbert & Co.,
Railroad Car, Coach and Omnibus Builders,
TROY, N. Y.

Charles T. Jackson, M. D.,
STATE ASSAYER, late Geologist to Maine, Rhode Island, New Hampshire, and the United States, offers his services to his friends and the public in making any Chemical, Mineralogical or Geological researches that may be required for the improvement of Agriculture and the Manufacturing Arts. Particular attention wili be paid to the exploration of mines and to assaying of ores of the metals.
State Assayer's office, 31 Somerset st.
Boston Sept. 3, 1850.

STEEL AND FILES.
R. S. Stenton,
20 CLIFF STREET, NEW YORK,
AGENT FOR
J. & RILEY CARR,
BAILEY-LANE WORKS, SHEFFIELD,
Manufacturers of Cast, Shear, German, Blister, and
Spring Steel,
Of all descriptions, *Warranted* Good.
FILES.
Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for working upon Iron and Steel, made very heavy for recutting.
☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

Walter R. Johnson,
CIVIL AND MINING ENGINEER AND ATTORNEY for Patents. Office and Laboratory, F St., opposite the Patent office, Washington, D. C.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Manning & Lee,
GENERAL COMMISSION MERCHANTS,
NO. 51 EXCHANGE PLACE,
BALTIMORE.
Agents for Avalon Railroad Iron and Nail Works. Maryland Mining Company's Cumberland Coal 'CED —'Potomac' and other good brands of Pig Iron.

Samuel Kimber & Co.,
COMMISSION MERCHANTS
WILLOW ST. WHARVES, PHILADELPHIA.
AGENTS for the sale of Charcoal and Anthracite Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.
July, 27, 1849.

James Herron, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.
Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New York and Erie Railroad.

PLUSHES
FOR
Railway Cars & Omnibuses.
F. S. & S. A. MARTINE,
112 WILLIAM ST., NEAR JOHN.

ARE now receiving a large and complete assortment of Plain and Figured PLUSHES, of their own importation, which will be sold at the lowest market price, viz: Crimson, Maroon, Scarlet, Green, Blue, Purple, etc.

ALSO—CURLED HAIR, the best manufactured in market.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.
CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention

Manufacture of Patent Wire ROPE AND CABLES,

For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tillers, &c., by JOHN A. ROEBLING, Civil Engineer,
TRENTON, N. J.

FORGING.
Ranstead, Dearborn & Co.,
MANUFACTURERS OF
LOCOMOTIVE CRANKS AND CAR AXLES,
ALSO
WROUGHT IRON SHAFTING,
And All Kinds of Hammered Shapes.
Office 25 Foster's Wharf, Boston.

Henry I. Ibbotson,

IMPORTER of Sheffield and Birmingham Goods. Also, Agent for the Manufacture of Telegraph Wire. 218 PEARL ST., NEW YORK.

Cumberland, (Md.,) Coals for Steaming, etc.

ORDERS RECEIVED FOR AND FILLED by J. COWLES, 27 Wall St., N. Y.

Samuel D. Willmott,
MERCHANT, AND MANUFACTURER OF
CAST STEEL WARRANTED SAWS,
—AND FILES—
IMPORTER OF THE
GENUINE WICKESRLY GRINDSTONES
NO. 8 LIBERTY STREET,
NEW YORK.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by
E. & G. W. BLUNT,
No. 179 Water St., cor. Burling Slip.
New York, May 19, 1849.

IRON.

Stickney & Beatty,
DEALERS IN IRON AND IRON MANUFACTURERS.

AGENTS for the Balt. City Rolling Mill, from which establishment they are prepared to furnish Ellicott's round, square, and flat bar iron, puddled and charcoal boiler plates and billet iron—also agents for the sale of the Laurel, Gunpowder and Locust Grove (Balt.) forge pig irons, Locust Grove and Laurel Irons for car wheels, Caledonian boiler blooms made from cold blast iron, Old Colony and anti-Eatam nails, Wm. Jessop & Son's steel, Coleman's blister steel and nail rods, sheet, hoop, band, oval and common English iron.

Nos. 18 and 20 South Charles st., Baltimore.

Car Wheel Iron.

100 Tons "Columbia" No. 2 Cold Blast Charcoal Iron.
300 Tons "Salisbury" No. 1, do. do.
For sale by CHARLES T. GILBERT,
No. 80 Broad st.
New York, Sept 21, 1850.

Railroad Spikes.

THE subscribers are prepared to make and execute contracts for Railroad Spikes of a superior quality, manufactured by the New Jersey Iron Company, at Boonton. DUDLEY B. FULLER & CO.
139 Greenwich st. corner of Cedar.

Railroad Iron.

1650 Tons, weighing about 61 lbs. per yard, 40 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by
BOORMAN, JOHNSTON & CO.,
119 Greenwich street.
New York, Aug. 26, 1850.

N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the United States.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.
COLLINS, VOSE & CO.,
74 South St.
New York, June 1, 1850.

Railroad Iron.

1,500 Tons weighing 58 lbs. per lineal yard.
500 " " 57 " "
500 " " 56 " "
500 " " 60 & 61 lbs. "
Also 2½x½ flat rails. All the above being of approved patterns. For sale by
DAVIS, BROOKS, & CO.,
68 Broad street.

N.B.—Rails imported on commission, or at a fixed price.

Iron.

Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns' for sale by
COLEMAN, KELTON & CAMBELL,
109 N. Water St., Philadelphia.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited. COOPER & HEWITT,
17 Burling Slip, New York.
February 15, 1850.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of English, Welsh, Scotch, and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery.
WILLIAM BIRD & CO.,
Iron and Tin Plate Merchants,
44 Wall st., New York.
And at 5 Martin's Lane, City, London,
and 140 Buchanan st., Glasgow.
July 27th, 1850.

Railroad Iron.

THE Undersigned are prepared to contract for the delivery of superior make Welsh Railroad Iron of the favorite brand "Aberdare."
JOSEPH BRAMWELL & CO.,
40 91 Wall street.

Glendon Refined Iron.

Round Iron, Band Iron, Hoop Iron,
Square " Flat " Scroll "
Axles, Locomotive Tyres,
Manufactured at the Glendon Mills, East Boston, for sale by GEORGE GARDNER & CO.,
5 Liberty Square, Boston, Mass.
Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.
JOHN F. WINSLOW, *Agent.*
Albany Iron and Nail Works, Troy, N. Y.
The above Spikes may be had at factory prices, o Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Brother, Baltimore, Md.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.

THE ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.
THOMAS PROSSER & SON, Patentees,
28 Platt street, New York.

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,
73 New street,
February 3, 1849. New York.

Iron Store.

THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Triadelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.
MORRIS, JONES & CO.,
Iron Merchants,
Schuylkill 7th and Market Sts., Philadelphia.
August 16, 1849. 1y33

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*
Troy, N.Y.
ERASTUS CORNING, Albany
WARREN DELANO, Jr., N.Y
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md
November 6, 1848.

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1900 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.
REEVES, BUCK & CO.
45 North Water St. Philadelphia.
March 15, 1849.

Tredegar Iron Works.

ROLLING MILL FOUNDRY AND MACHINE SHOPS. The undersigned continues to manufacture at his Works in this city (from best charcoal metal) Bar Iron of every description, embracing—Rounds and Squares, from ¼ to 5 inches diameter. Flats, from ¼ to 7 inches, all thicknesses. Bands and Scrolls, all sizes. Boiler plate and Plough Iron. Railroad and Locomotive Axles and Tires. Locomotive Frames, Spikes and Plates. Hoops, Ovals, Half Ovals, Half Rounds, Angle, T, L, and indeed every description of Iron usually manufactured, all of which he warrants to be equal to any made in this country. He also manufactures at his Foundry and Machine Shops all descriptions of Railroad Work, say, Locomotives, Railroad Wheels and Axles complete and ready for the road, Railroad Chairs, etc. Also, Marine and Stationary Engines all sizes, Sugar mills and Engines, Horse mills, and every kind of Machinery usually required for the operations of the country. He has paid particular attention to getting up machinery, etc., for Gold Mine operations, and those in want of such work might find it to their advantage to give him a call. J. R. ANDERSON.

Richmond, Va., Sept. 10, 1850.

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
6m9 62 Buchanan's Wharf, Baltimore.

S. S. Keyser & Co., IRON WAREHOUSE,

Corner of South and Pratt Streets,
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Smith & Tyson,

GENERAL COMMISSION MERCHANTS,
No. 25 South Charles St., Baltimore, Md.

AGENTS for the Celebrated Columbia Pig Iron, suitable for Car Wheels and Chilled Rolls.

Columbia refined Charcoal Blooms; Refined Charcoal Juniatta Billet Iron for Wire; Refined Iron for Bridging, of great strength; Cut Nails, Spikes, and Brads; Railroad Spikes and Wrought Chairs. 22tf

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Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel,

AND

ENGINEERING AND MACHINE FILES,

which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.

November 23 1849.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by
RAYMOND & FULLERTON,
45 Cliff street.

IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.
LINDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Railroad Iron.

2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by
COLLINS, VOSE & CO.,
74 South St.

New York, June 1, 1850.

Railroad Iron.

3,000 TONS C. L. MAKE 63½ lbs. per yard, now landing and to arrive.

Also contracts made for future delivery of above superior make English Iron.

300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.

For sale in lots to suit purchasers by
DAVID W. WETMORE.

New York, March 26, 1850. 3m

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,
PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.
May 6, 1848.

Railroad Iron.

B. O. Railway Tires, Railway Wheels,
Scotch Pig Iron, Tin Plates and Banca Tin,
Muntzs Patent Metal Sheathing,
Baltimore Copper.

Contracts for Rails made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by
RAYMOND & FULLERTON, 45 Cliff st.

Bowling Iron. Stamped B.O.

Railway Tire Bars	Rivet Iron
Locomotive and other Axles	Locomotive Frame do
Boiler Plates	Bars.

and every other description of this superior Iron.

The subscribers, agents for the sale of Bowling Iron, are prepared to execute orders for importation, especially for railway and machinery uses, with despatch from the manufacturers.

RAYMOND & FULLERTON, 45 Cliff st.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS J. LOVEGROVE,
Machinist and Founder,
West Falls Avenue, below Pratt st., Baltimore.

Railroad Iron.

SPIKES.

Wrought Iron CHAIRS, New Pattern.

THE Undersigned continues to contract, as usual, for the above articles. The reputation already acquired for their excellent quality is a guarantee that strict attention shall continue to be paid to the wants and interests of purchasers.

CHARLES ILLIUS,
20 Beaver St., New York.

Ray's Patent India Rubber Car Springs.

Savannah, Ga., May 22, 1850.

FOWLER M. RAY, Esq.,

Dear Sir; I have no hesitation in saying, after having used on our road your springs and Fuller's, that I consider yours decidedly the best in every particular, and in this opinion I am sustained by all our officers. Fuller's spring has a tendency to split, and also to chafe or abrade by the constant friction on the cast iron plates or disc: and in my opinion is not near so elastic as yours.

Your springs, which have been in use on our road for 12 or 15 months past, and in constant use under both passenger and freight cars, are to all appearances as elastic, sound and good, as when first put in use.

We are now building eigty-five new cars, of which for fifty-sets the springs have been ordered of you.

GEORGE A. ADAMS,
Master Carpenter,
Central Railroad and Banking Co. of Georgia.

—

Connecticut River Railroad Office,
Northampton, May 4, 1850.

E. CRANE, Esq.,

Dear Sir: It is now about two years since I first tried the experiment of using a set of Ray's India-rubber Springs upon one of our merchandise cars, and although the car has been in constant service since that time, I do not on examination find the slightest difference either in the thickness or elasticity of the material.

The same result has followed wherever we have applied them, either for wheel or draw springs on Engines, Tenders or Cars. At present we use no other; either in replacing old springs or building new cars—and I am perfectly satisfied that for economy, durability, safety, and ease of motion, that Ray's India-rubber is the best article for Springs which has been presented to the public.

Yours respectfully, J. HUNT,
Supt. Connecticut River Railroad.

—

EDWARD CRANE, Esq.,

Dear Sir: Having applied to cars of the Boston and Worcester Railroad Corporation, Ray's Vulcanised Rubber Springs (where they have been in use for some two years last past), I have had occasion to observe their operation, and am free to say in answer to your inquiries, that they retain their *elasticity* perfectly during all changes of atmospheric temperature: and are in my opinion a most valuable acquisition to Railroad Cars—are not liable to derangement, as is the case with steel springs; while at the same time it costs less to apply them. Respectfully yours,

D. N. PICKERING,
Supt. Motive Power, Bost. & Wor. Railroad.
Boston, April 15th, 1850.

EMERSON'S

PATENT

CORRESPONDING VENTILATORS,

For Ships, Steamers, etc.,

Manufactured by

CHILSON, ALLEN, WALKER & CO.,
351 Broadway, New York.

TO RAILROAD COMPANIES, CAR MANUFACTURERS, etc.

THE Undersigned hereby gives public notice, that the Commissioner of Patents, pursuant to his decision in relation thereto, on the 8th day of October, 1850, issued to him a Patent for the sole right to manufacture, and exclusive use of the INDIA RUBBER CAR SPRING, on account of priority of invention of said Spring. F. M. RAY.

New York, Oct. 23, 1850.

RAILROAD CAR MANUFACTORY

TRACY & FALES,
GROVE WORKS, HARTFORD, CONN.

Passage, Freight and all descriptions of

RAILROAD CARS,

AS WELL AS

LOCOMOTIVE TENDERS,

Made to order promptly.

The above is the Largest Car Factory in the Union. In quality of Material, and in Workmanship, Beauty and Good Taste, as well as Strength and Durability, we are determined our work shall be unsurpassed.

JOHN R. TRACY. THOS. J. FALES.

Monument Foundry.

A. & W. DENMEAD & SON,
Corner of North and Monument Sts.,—Baltimore,
HAVING THEIR
IRON FOUNDRY AND MACHINE SHOP
In complete operation, are prepared to execute faithfully and promptly, orders for
Locomotive or Stationary Steam Engines,
Woolen, Cotton, Flour, Rice, Sugar Grist, or Saw Mills,
Slide, Hand or Chuck Lathes,
Machinery for cutting all kinds of Gearing.
Hydraulic, Tobacco and other Presses,
Car and Locomotive patent Ring Wheels, warranted,
Bridge and Mill Castings of every description,
Gas and Water Pipes of all sizes, warranted,
Railroad Wheels with best faggotted axle, furnished and fitted up for use, complete

☞Being provided with Heavy Lathes for Boring and Turning Screws, Cylinders, etc., we can furnish them of any pitch, length or pattern.

☞ Old Machinery Renewed or Repaired—and Estimates for Work in any part of the United States furnished at short notice.

June 8, 1849.

RAILROAD CAR AND COACH TRIMMINGS.

Doremus & Nixon,
IMPORTERS AND FURNISHERS
HAVE FOR SALE

Plain Garnet Plush.	Fig. Garnet Plush (Butterfly pat.
" Crimson "	" Crimson " (Elegant.
" Scarlet "	" " " (Gen. Taylor.

BROCATELLES.

Crimson Silk Brocatelles.	Gold and Maroon do.
Gold and Blue "	" Brown "
Silk and Wool "	of every color.

MOQUETTS,
Of elegant designs and colors.
GERMAN CLOTH FOR CAR LININGS.
The most beautiful goods ever shown in this country, and the subscribers are the sole agents for the sale of them.
Oil cloths Enamelled with Gold. } These goods can be
" " Silver. } furnished in any
Do. Silver ground velvet printed. } dimensions req'd.
CURLED HAIR
Of every description and quality.
JNO. W. A. STRICKLAND, Agent.
New York, 1850. 1y16

FOWLER M. RAY'S Patent India-rubber Railroad CAR SPRING.

New York and Erie Railroad Shops.
Piermont, March 26, 1850.

This will certify that from practical experience in the use of Fowler M. Ray's India rubber Car Springs, I believe them to be far superior to any others now in use.

I have never known them to be affected by any change of temperature, as other Rubber Springs have been affected on this road.

I am at the present time repairing a Passenger Car that Mr. Ray and myself mounted with his springs about two years and eight months since.

The springs are at the present time as perfect, to all appearances, as when first applied to the car.

Respectfully yours,
HORACE B. GARDNER,
Foreman of the Car Shops.

—

Supt. Office N.Y. & H. R.R.,
New York, March 8, 1850.

This is to certify that we have used the Rubber Springs manufactured by Mr. F. M. Ray for the past twenty months, "both for Passenger and Freight Car Springs and Bumpers, and of different sizes," and have in every case given entire satisfaction, and I consider them the best spring now in use.

M. SLOAT, Supt.

—

Boston, March 5, 1850.

In answer to your enquiry about India-rubber Springs, I have to say that we have used them to a considerable extent on both freight and passenger cars, and also on several of our tenders; and I am very well satisfied that they answer all the purposes for which they are intended. I believe the India-rubber will soon supersede all other springs for cars and tenders.

Yours truly,
S. M. FELTON,
Supt. Fitchburg Railroad.

Office New Jersey Railroad Co.,
Jersey City, March 8, 1850.

FOWLER M. RAY, Esq.,

Dear Sir: In answer to your enquiries respecting the operation of the Vulcanised Rubber Springs, purchased by our company from you some two years since, I reply that they are superior to any spring in use, (that I have either seen or heard of).

The improved form of your spring, consisting of a solid piece of vulcanised rubber with bands on the outside, is far superior to your first form, consisting of disks of rubber with metallic plates interposed.

The last named form was tried, if you recollect, at a much earlier period; and then was replaced by your last form.

I have no hesitation in saying that your springs have given entire satisfaction, and most cheerfully recommend them to railroad companies throughout the country for the following reasons:

1st. The cost is 30 per cent. less.

2d. Saving of weight on each car of 8 wheels from 700 to 800 lbs.

3d. Less care and attention is required, as they are not liable to get out of repair.

4th. A great saving is secured in the wear and tear of the cars and rails from their great elasticity.

5th. The freedom from noise.

6th. There is greater safety in case of accident, as they cannot be broken.

7th. The comfort of passengers is enhanced sufficiently to pay the expense, waiving all the other reasons that I have given.

Should this fail to satisfy any person enquiring, you are at liberty to refer to me, No. 150 Washington St., Jersey City. Yours respectfully,

T. L. SMITH, Supt.

—

New York, March 11, 1850.

I have used the Patent India-rubber Spring purchased of Mr. Ray, upon the cars of the New York and New Haven Railroad, and have found them efficient and economical; and when applied to the axles and draw springs, believe them to be quite equal to any in use. I have found a combination of these springs with a steel spring under the transom beam a very satisfactory arrangement, and am now using this plan in all new cars. Yours respectfully,

ROBERT SCHUYLER.

—

February 25, 1850.

From practical observation of the use of the India-rubber Car Springs, manufactured and sold by your company, we are entirely satisfied in their application, and do not hesitate to recommend them as elastic, durable, requiring no repairs for years, and retaining their consistency during all extremes of weather. We have applied them for the past two years, and consider them superior for all railroad purposes.

Yours truly,
OSGOOD BRADLEY, Car Builder, Worcester.
T. & C. WASON, do. Springfield.
DEAN, PACKARD & MILLS, do. do.
DAVENPORT & BRIDGES, do. Cambridgeport.

—

Office of the New Jersey Railroad Co.,
Jersey City, March 7, 1850.

This is to certify that we have had Mr. F. M. Ray's India-rubber Springs in constant use under our cars, and as Bumper Springs for upwards of two years, and they have in every way given perfect satisfaction.

The present form of spring we deem far superior to the form of Disk, having used both forms, although we have none of those made in Disks at present in use.

We take pleasure in recommending these springs to all railroad companies.

J. P. JACKSON, Vice Prest.
New Jersey Railroad and Trans. Co.

—

Roxbury, February 28, 1850.

In compliance with your request, I take great pleasure in stating the result of my experience in the use of "Ray's Patented Vulcanised India-rubber Car and Engine Springs." We have used them nearly two years, and never had one fail in any way. The *cold weather* does not affect *them*, as it has *other* rubber springs we have used.

With sixteen years' experience as superintendent of machinery on the Boston and Providence railroad, I take pleasure in saying that your springs are the best we ever used, or I ever saw used elsewhere. We have 20 cars rigged with them, of which I can say that the springs are as good now as when first applied. I put 24 lbs. of the rubber under the forward end of one of our heaviest engines, taking off 250 lbs. of steel springs—it has been in use 18 months, and is in as good condition now as when first put under the engine.

Very respectfully yours,
GEO. S. GRIGGS,
Supt. of Machinery, Boston and Prov. R.R.

Fall River, February 2, 1850.

In answer to yours of the 20th ult. I would say that this company has for some 10 or 12 months past been using "Ray's India-rubber Springs." We have applied them to both passenger and freight cars with uniform success. They have invariably preserved their elasticity and consistency through all the extremes of weather; and we are now applying them whenever the steel spring fails. I am well satisfied that they are particularly adapted for railroad purposes.

Very respectfully yours,
GEO. HAVEN,
Supt. Fall River Railroad.

—

Jersey City, March 9, 1850.

This is to certify that the present form of Mr. F. M. Ray's India-rubber Car Spring I consider far superior to the form of Disk, having used both forms.

I take pleasure in recommending these springs to all railroad companies. DAVID H. BAKER,
Foreman of Car Shop of N.J. R.R. & Trans. Co.

—

Harlem R.R. Depot,
New York, March 7, 1850.

This is to certify that we have used Mr. F. M. Ray's India-rubber Springs for over eighteen months, and find them to be easy and durable, and recommend them to railroad companies as being superior to anything we have tried. J. M. SMART,
Foreman at 42d St. Depot.

—

Old Colony Railroad Office,
Boston, March 6, 1850.

EDWARD CRANE, Esq.,
President New England Car Co.,

Dear Sir: In compliance with your request I would state that the Old Colony Railroad Comp'y have had in use upon their road, India-rubber Springs furnished by your company, for more than eighteen months past, during which time they have been extensively used under Passenger and Freight Cars, Locomotive Tenders, and for Drawer and Buffiing Springs, with the most perfect success. The elasticity and consistency of the Rubber has never been unfavorably affected by either extremes of heat or cold—and from the experience which we have had in the use of Rubber Springs, I think them well adapted for railroad purposes—and therefore we have for some months past used Rubber almost exclusively, in all places where springs are required.

Respectfully yours, etc.,
JAS. H. MOORE,
Supt. O. C. Road.

—

Troy, February 27, 1850.

We have been using your India-rubber Car Springs for nearly two years—and we take pleasure in saying that in our opinion the rubber has to a certain extent already, and may eventually entirely supersede all other Springs for Railroad Car purposes. We now use it entirely for Draw Springs and Bumpers, considering it better and lighter than steel.

During our two years' experience in the use of it, we have not known any to lose their elasticity, or fail in any way; and we cheerfully recommend the rubber for railroad car springs. Very respectfully,
EATON, GILBERT & CO.

Passenger Car Linings.

THE Advertiser continues to make to order the Enamelled Car Linings which have been so highly approved the last three years, and are now exclusively used by all the Northern Railroads. No pains are spared to get out new styles, and adapt them to the tastes of every consumer.

Orders addressed to CHARLES STODDER, No. 75 Kilby street, Boston, will have prompt attention.

March 23, 1850. 2m

India-rubber for Railroad Cos.

RUBBER SPRINGS—*Bearing and Buffer—Fuller's Patent—Hose* from 1 to 12 inches diameter. Suction Hose. *Steam Packing*—from 1-16 to 2 in. thick. *Rubber and Gutta Percha Bands.* These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849.—No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of railroads do not be overcharged by pretenders.

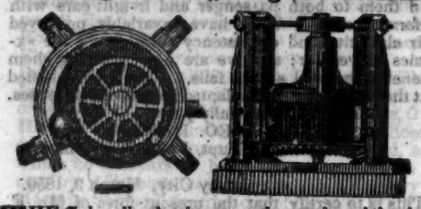
HORACE H. DAY,
Warehouse 23 Courtlandt street.
New York, May 21, 1849.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK,
March 6, 1850. Troy, N. Y.

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has given universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammerman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th
Philadelphia, Pa.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

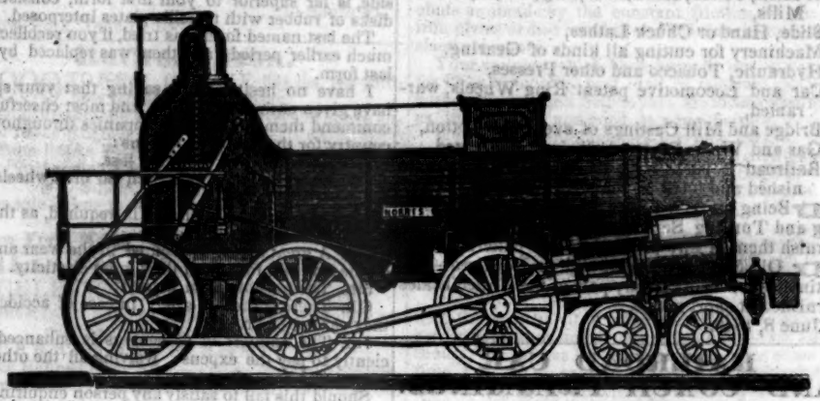
He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others. J. L. BROWN.

☞ Bank Scales made to order, and all Scales of his make Warranted in every particular.

Reference given if required.

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,



THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general asssortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
☞ *So.e Manufacturers,* ☜
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849. 1y

COLUMBUS, OHIO,
Railroad Car Manufactory.
RIDGWAYS & KIMBALL,

HAVE established at this central point, the manufacture of Passenger, Freight, Gravel and Hand Cars for Railroads, and assure all Western Railroad Companies that it will be their constant aim to procure the best materials and workmen, and to turn out the best kind of work at fair prices. Specimens may be seen on the Columbus and Xenia Railroad. The patronage of Railroad Companies is respectfully solicited. 1y8

FOR SALE.

THREE LOCOMOTIVES, Manufactured by M. W. Baldwin, of 10 tons weight, all in complete repair, and now running on the Columbia and Philadelphia Railroad.

For particulars apply to A. L. Roumfort, Supt. of said road, either at Philadelphia, or Parkersburg, Chester county. A. L. ROUMFORT,
Supt. Motive Power Col. & Philad. R.R.